Lectures
ON
THE RELATIONS OF SARCOMA TO CARCINOMA.

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LECTURE III.—PART II.
CENTRAL TUMOURS OF BONE.

THE two tumours of the FIBULA may be regarded as a kind of appendix to the tumours of the tibia. They occurred during the middle period of life, were of the upper epiphysis, and both displayed a less malignancy than the corresponding subperiosteal tumours. Again, it is unfortunate that no autopsy was permitted of the fatal case.

The malignancy of the spindle-celled sarcoma of the FOOT is so marked and of such a kind that the case must be dealt with at greater length. It is recorded by Virchow in the *Krankhaften Geschwülste*.[1] The patient, a morocco-leather dresser, thirty-one years old, whose health had been always good until the early spring of 1858, suffered at that time from a sharp attack of pleurisy, from which recovery was speedy and apparently complete. At Whitsuntide he noticed a swelling of the dorsum of one foot, and at Michaelmas a second tumour appeared about the external ankle. In the spring of 1859 he began to cough and could no longer breathe with ease. These difficulties increased in severity, and in April caused his death. The second and third metatarsal bones were quite replaced by a soft medullary substance, blotched with old and recent blood, which touched the periosteum and cartilage in all directions, but did not extend beyond them. Several of the smaller tarsal bones contained similar medullary substance, which occupied the centre of each bone and left the cortex free. The osseous system, with these exceptions, is reported to have been sound. Both lungs were the seat of secondary growths, which on the left side projected between the layers of the pleura. But the condition of the glands is to me the most attractive feature of the case. One popliteal gland was diseased and medullary in appearance; the lower inguinal glands the size of walnuts and also medullary; the glands immediately above simply hyperplastic, but here and there exhibiting small medullary nodules; whilst the mediastinal glands formed a row of medullary growths. For my comfort's sake I would willingly have omitted this case or passed it by in silence, for it is the only one in the whole series of central tumours of which the sole explanation I dare offer is that the affection was conveyed through the lymphatic vessels. At present I am at a loss to conceive the reason of what I cannot but perceive is a deviation from the course naturally pursued by these tumours. But since the object, above all others, of this inquiry is to ascertain the truth, this case must be accepted with the others in the hope that so far from exhibiting an arbitrary deviation from a natural law, even its apparent irregularity may help to guide us to a more intimate knowledge of the laws which govern the course pursued by a malignant tumour.

The first case of the following group of tumours of the HUMERUS is also an example of glandular affection, but of a very different kind. The tumour, a round-celled sarcoma of the humerus, grew within the upper epiphysis. Eight months after its first appearance the patient died, apparently killed by the disease, for which no operation had been practised. For in addition to the tumour of the humerus a similar growth existed in the medulla of the other humerus, and a third tumour in the interior of one femur immediately below the trochanters. The mesenteric and retro-peritoneal glands were the seat of similar disease, but in no other organ or tissue of the body were secondary tumours found. The relation of this gland-affection to the tumours of the bones is not clear, but the disease could scarcely have been conveyed through the lymphatic channels. The complete absence of any secondary affection in the other cases may probably have been due to their death from other causes at an early period of the disease. The same tendency to affect persons of a mature age observable in other central tumours is apparent in these tumours of the humerus.

The tumours of the ULNA and the RADIUS, whatever the variety of the sarcoma, attacked almost always the lower portion of each bone. A very modified malignancy is evident in four of the five cases, as well in the case that died as in those whose good health is recorded long after operation. For the fatal case is marked by the complete absence of secondary tumours.

The number of cases of tumour of the SCAPULA, like those of the pelvis, would be greater but for the difficulty of deciding on their origin.

The central tumours of the JAW are far more numerous than those of subperiosteal origin, but I suspect one of them would be more justly classed among the latter. It is the round-celled sarcoma, No. 47, which occurred in a child five years of age. It grew rapidly, and at the end of two months was resected with the portion of the jaw to which it was attached. In six weeks it was again removed, and after the second operation it speedily recurred again, and in seven months from the day it was first noticed the patient died exhausted. In the record of the case by Mr. Heath, in the Pathological Transactions,[2] the tumour is spoken of as evidently growing from the interior of the bone, but from the description I am unable to convince myself of this. Recurrence after operation, which was so marked a feature of the subperiosteal tumours, is noted only of two of these—that I have this moment mentioned, and a case in which the tumour was simply enucleated from the cavity in which it lay. Recurrence was speedy in both cases, but in the latter the progress of the recurrent tumour was very slow, for it was not removed until seven years after the first operation had elapsed, and even then was hardly larger than a walnut. The cases of myeloid disease are singularly complete. Every one of them was traced through many months, and more than one through several years. The first of the list is stated to have died of myeloid disease; this was not so. Although he suffered from three small tumours, two of the jaw and one of a single rib, his death was from exhaustion connected with mollities ossium. The admixture of earthy salts or bone is a noticeable feature in the tumours of the lower jaw.

The tumour of the STERNUM might fairly be included with the tumours of the skull, or might perhaps more rightly form one of a class to which I shall have occasion presently to refer, the members of which attack several bones almost at the same time.

The PELVIC tumour is of little interest unless it be compared with the subperiosteal pelvic tumours, but is of extreme interest as it bears upon the important question of glandular affection. It did not affect the lymphatic glands, and the reason for this forbearance may probably be discovered in its relation to the cavity of the pelvis, and therefore to the lymphatic glands. Almost the whole of the sacrum and coccyx was replaced by the new growth, which infiltrated the muscles posteriorly, but was limited in front by the periosteum, which separated it from the interior of the pelvis. It may be remembered that the pelvic tumours which affected the lymphatic glands were in each case without a covering of any kind, were of large size and grew directly in contact with the glands.

The tumours of the SKULL differ from the cranial subperiosteal tumours first and most strikingly in the much older patients they attacked, for the youngest of the four was nearly fifty years of age; second, in the fact that although three of them were of the vault only one produced multiple tumours of the skull. This one case too was singular in the affection of the glands which occurred as the disease progressed; and which was probably due to a continuous growth from the tumour of the occiput. As in the subperiosteal round-celled tumours, so in two of these there was widespread generalisation, chiefly in various bones.

This leads me to speak of a class of cases to which I referred when speaking of the tumour of the sternum—cases in which many bones are attacked almost simultaneously by sarcomatous disease. Such I imagine was the nature of a

[1] Bd. II. s. 238.

[2] Vol. xix. p. 303.

case recorded by Dr. Moxon in the Pathological Transactions.[3] It is described as "colloid cancer," the characters of which it undoubtedly presented, for the tumour consisted of large alveoli filled with gelatinous material. With the exception of numerous rounded nuclei in some of the alveoli, no mention is made of cellular elements; unless, therefore, we accept these as round cells, which had escaped destructive or degenerative changes, there is nothing to guide us to a diagnosis of the variety of sarcoma to which this presumably belonged. The patient, who was only twenty-three years of age, had never during life presented any signs from which it could be inferred that he was the subject of extensive osseous disease. He died apparently from hæmorrhage following the removal of some warts from his prepuce, an operation of the most trivial nature. The autopsy, however, discovered sufficient cause for death. The bladder was inflamed; the kidneys suppurating; numerous subperiosteal tumours of small size existed on the inner and outer tables of the skull; many of the vertebræ, from the skull as far down as the sacrum, contained growths of larger and smaller size; seven of the ribs of the right and four of those of the left side were affected in a similar manner. The largest of the tumours appears to have been that of the eighth left rib; it was swollen to the size of a large plum, completely destroyed the bone where it was seated, extended through the periosteum, which was still visible as a circular line in a section of the tumour, and infiltrated the surrounding muscles. None of the organs or other tissues of the body were affected except some of the bronchial glands, probably by continuous infiltration from the tumours of the ribs or spine. It cannot of course be absolutely averred that most of these tumours were not secondary to some one among their number; but their near equality of size, the absence of symptoms indicating long duration of any of them, and the absence of secondary affection of parts usually prone to such affection, all point to another origin than this. Probably several of the cases classed with the tumours of particular bones might more justly be grouped together as instances of general sarcoma of the bones, what has been called by Buch[4] "multiple primary sarcomatosis of the medulla of bone." The cases in this table which appear to merit this appellation are the last three of those of the skull, that of the sternum, and perhaps the round-celled tumour of the humerus. All the tumours were round-celled, and the bones most frequently affected were the skull, the ribs, and vertebræ. Von Rustizky,[5] in the short article in which he includes the case I have numbered 62, calls the disease in that particular instance "multiple myeloma," and regards it as a simple or innocent affection, a mere outgrowth of the medulla of the bones. But its rapidly fatal issue, the infiltrating nature of the growths, the vessels with walls composed of a single layer of round cells, are, I think, characters absolutely inconsistent with such a view. The names suggested both by Buch and von Rustizky do not completely cover all the conditions of the disease. For although most of the tumours are of central origin, some of them are superficial, the tumours of the skull especially, which grow, as in Dr. Moxon's case, on the outer and inner aspects of the bone. It may be that the tumour of the femur (No. 2), of whose rapid course and widespread generalisation I spoke yesterday, was an instance of this general sarcomatous disease of bones. Perhaps too, as a lesser affection of the same kind, may be included the disease of the tarsus and metatarsus, which took the form of isolated areas of tumour in the interior of several adjacent bones, but did not affect parts of the skeleton more distant. If this case be admitted, it forms the sole exception to the rule by which thus far all the tumours have been round-celled. So far from regarding this condition as one of simplicity or less malignancy, it should surely be regarded as one of exceeding malignancy, for the disease falls not upon a single structure, but almost simultaneously upon several or even many similar structures, and from any or from all of these may spread, either by continuous infiltration, or through the medium of the blood; this character of multiplicity it is which deprives the unfortunate subject of the sarcomatous disease of the last chance which might otherwise be given by its removal.

Hitherto I have dwelt almost entirely upon the characters of sarcomas of particular bones. Now let me, in conclusion, point out a few important features, most of which are common to both central and subperiosteal growths.

First: their history and course. Speaking in very general terms, central tumours occur in persons older than those who are the subjects of subperiosteal tumours; for while the latter not uncommonly attack young subjects, or even children, the former are by no means rare in persons advanced in years. Again, the central tumours grow for the most part more slowly than those which originate beneath the periosteum. Injury is not credited with the production of a large proportion of the tumours of bone, nor does previous inflammation appear to exercise the influence which has been attributed to it.

Second: the physical conditions of the tumours previous to their removal, or to death, are interesting, especially in two particulars—first, their situation; second, their occasional pulsation. Let us take the second first, for it is more easily dealt with. A tumour of either origin may pulsate, but the symptom is more common in central than in subperiosteal tumours. It occurred in every variety of the former, only in the round and mixed-celled subperiosteal growths; and in either case only in tumours of certain bones—the femur, tibia, calvaria, and innominate bone. The total number of pulsating tumours of the long bones was much larger than of the other two, but the proportion was greatest in the tumours of the pelvic bone, in which it reached one-half. Where the cause of pulsation could be ascertained it was due in every case to an abundant supply of vessels of moderate calibre, which in some cases of blood-cyst poured their blood directly into the cavity of which the tumour appeared mainly to consist.

No problem has seemed to me so difficult as the unfolding of the laws which determine the situation of sarcomatous tumours. Long bones, short bones, and flat bones are liable to sarcoma, but not all bones equally, or even all the bones of each shape in equal proportion. The long bones of the lower extremity are far more frequently attacked than the bones of the arm and forearm, while the bones of the metacarpus and metatarsus are but rarely affected, the phalanges almost never. The flat bones of the skull, the scapula and the innominate bone, are all subject to sarcoma, but the skull bones most of all. None of the short bones are very liable to the growth of primary disease, and I have found no record of affection of the carpal bones. But this statement only very partially expresses what may be termed the power of selection exhibited by sarcomatous tumours. In the long bones they show a decided preference for the epiphyses or articular ends, and especially the tumours of central origin, for one articular end of each long bone. In the upper extremity it is the upper epiphysis of the humerus, the lower of the radius and ulna; in the lower extremity the lower epiphysis of the femur, the upper of the tibia and fibula. The explanation of this singular phenomenon may be attempted on various hypotheses, but none of them are satisfactory. It is possible the secret exists, not in one condition, but in a combination of conditions, one or the other of which may exercise an influence more prominent than the rest. As a fisherman ofttimes attaches several baited hooks to the end of a single line in the hope that, one failing, another may allure his prey, so let me bait those particular ends of the long bones, which are so frequently the seat of central tumours, with all the conditions I can find common to them, and abide patiently in the hope that the reason which evades us now may be one day found fixed to one or other condition, perhaps by someone more fortunate than myself. All these parts contain cancellous tissue in greater or less abundance; their position renders them liable to squeezes, blows, and injuries of various kinds; in the process of development of the bones they are the parts which are the first to ossify, the last to be united with the shaft; and the direction of the nutrient artery is from them, not towards them.

Third: after removal of the tumour, or death, a peculiarity is observed in the appearance of the subperiosteal tumours which does not exist in the central growths. They present, in the large majority of instances, a structure radiating from the bone, which indeed, I believe, is never absent if the material of which the tumour is composed is of such a nature as to allow it to appear. Rindfleisch[6] mentions it, and ascribes it to a papillary formation. But it is not a papillary formation in the sense of resembling in structure a papilla of the skin or mucous membrane, but apparently is solely due to the manner in which the tumour grows or is developed

[3] Vol. xxii. p. 206.
[4] Ein fall von multipler primärer Sarcomatose des Knochenmarks. Inaug. Dissert. Halle, 1873.
[5] Deutsch. Zeitschrift f. Chirurgie, Bd. iii., s. 162.
[6] Lehrbuch d. Pathologischen Gewebelehre, 4te Auflage, s. 544. Leipzig.

The chief growth takes place around the tiny vessels passing from the periosteum almost at right angles through the cortex of the bone; each of these becomes the centre of a column resting on the bone; and thus the stamp of radiation is impressed upon the tumour. A radiation of a similar kind may exist in inflammatory new formations originating beneath the periosteum. I have already referred to the rarity of osseous and cartilaginous transformations of the substance of central tumours, so common in subperiosteal growths.

Fourth: the progress and termination of both classes of tumours show that all sarcomata of bone may be malignant, but their malignancy is of widely different degrees, and displayed in various forms. Speaking generally, it may be said that central sarcomas are far less malignant than subperiosteal, and tumours of the bones more distant from the trunk than those of bones more near. The latter of these two statements is illustrated by the relative malignancy of the tumours of the tibia and of the femur, which has been referred to in each of these two lectures. The accuracy of the former statement may be tested as well by the cases which have come under my own observation as by the complete series of these tables. Of eleven patients with subperiosteal tumours of various bones of which I have taken notes, and which are included in the table, I know that nine are dead. The tenth, whose tumour was of the tibia, and for whom amputation was performed at the end of two months, was well when last heard of, fourteen months after operation. The eleventh was subjected to amputation only a few weeks ago. Of ten cases of central tumours here included, I have notes of the death of three, and of slow recurrence in one during seven years after enucleation, while four are known to have been well at periods respectively of one year, three years and a half, four years, and five years and a half after operation.

The least degree of malignancy is infiltration of contiguous structures, much more common in subperiosteal than in central tumours, and, though generally seen in tumours which become generalised in distant parts, not a necessary precursor of this more marked malignancy. Next in order to this continuous infiltration is affection of the lymphatic glands, rarely occurring in conjunction with subperiosteal, still more rarely with central tumours. It may be of the same nature as the affection of other organs where the disease is probably conveyed through the medium of the blood, as when glands having no lymphatic relation with the region primarily diseased become sarcomatous. Examples of this were alluded to in speaking yesterday of the tumours of the skull, and to-day the round-celled tumour of the humerus furnishes us with an instance among the central tumours. Or it may probably originate in continuous infiltration of one or more lymphatic glands by the primary disease, an opinion for which I have delivered reasons in the reports of several cases, but which I have not yet been fortunate enough to prove by actual dissection. For in those cases in which tumours of large size grew in the immediate neighbourhood of lymphatic glands, and in their growth destroyed them, I could not be sure whether the disappearance of the glands was due to their entanglement in the tumour or to transformation of their substance. And, since I am not able to affirm the contrary, it may be due to conveyance of the primary disease through the lymphatic channels, the common path by which most tumours affect the glands, but I venture to think the least common of the sarcomata of bone, if, indeed, it ever occurs; and for these reasons: the infrequency of glandular affection in connexion with tumours of bone, whether central or subperiosteal, the absence of glandular affection in cases of long-standing disease, and the absence of glandular affection when the disease has been permitted to run an uninterrupted course to death, and when one or more of the organs are the seat of the secondary growths. It might be thought that if the primary disease did not obtain access to the lymphatic channels directly from the bone, it yet might find an entrance into them when the soft tissues around the bone became involved. But probable as this appears in theory, it is contrary to the teaching of experience. It will of course be understood that every case of irritative or inflammatory enlargement of the glands has been carefully excluded. The last degree of malignancy is that in which growths appear in organs or tissues more or less remote from the part in which the tumour first was noticed; in most cases undoubtedly conveyed there by the blood, as when the interior of the heart or the lungs become affected; in some cases of less certain origin, as when the subcutaneous tissue or the skin is the seat of secondary tumours and the lungs are free; and in some cases apparently due to distinct outbreaks of sarcomatous disease, either after a prolonged period of quiescence or in several parts almost simultaneously. Of all organs, the lungs are far more commonly affected than any other, and the tumours which exhibit the most marked tendency to widespread generalisation are the round-celled tumours. But the affection of the lungs and the generalisation of round-celled tumours are, as may be seen by a glance at these tables, both largely influenced by the situation of the tumour. It is the round-celled tumours of certain bones which are thus liable to become widely generalised, and the subperiosteal which are far more likely than the central tumours to affect the lungs.

If in these two lectures I have bestowed what appears to be too little attention on the effect which the structure of a tumour produces on its characters and course, it is because this effect has seemed to me to yield almost entirely to the far more potent influence exercised by the situation of thegrowth, and my desire to exhibit in its perfection the power of the latter has led me almost to neglect the former.

I cannot now enter at length into the question of operation, but still I cannot refrain from indicating how largely it is influenced by a more intimate acquaintance with the conditions of life of the tumours of different bones. Setting aside cases of multiple sarcoma and of tumours so situated that they cannot be removed, it seems as if no doubt can exist of the propriety of operation where the disease has not advanced too far. Its advantages are obvious. Complete removal of the primary disease arrests its continuous infiltration and terminates the dangers which are incidental to the mere presence of a tumour often of enormous bulk. For local recurrence may be regarded as an accident which may be absolutely prevented by removal, an accident almost unknown when, for example, the thigh is amputated for a tumour of the tibia. Nor does there seem sufficient ground to doubt that if the primary tumour were early enough removed, generalisation by the blood and affection of the glands may be prevented. Against these benefits the only disadvantage which can fairly be alleged is the danger of the operation itself, marvellously less at the present time than it was ten years ago, and not to be gauged by the horrible mortality exhibited in this table of central sarcomas.

The following general rules for operation may, I think, be gathered from a study of the cases in these tables.

For all subperiosteal sarcomas of the limbs amputation at the earliest possible date high up above the tumour. The nearer the tumour to the trunk the less likely is the operation to be successful, not only because the malignancy of these tumours seems generally to increase as they grow from parts more near the trunk, but because of the greater difficulty of allowing an area sufficiently wide above the growth. For subperiosteal sarcomas of the clavicle, the lower jaw and ribs, free resection of the tumour, and of the bone from which it grows. But with a diminished expectation of success depending upon the vastly-increased chance of recurrence after operation. For subperiosteal tumours of the pelvis usually no operation is of use, and for those of the skull none is admissible, partly because the tumours of the vault grow from both aspects, partly because in the majority of cases they are multiple.

For all tumours of central growth occurring in the bones of the extremities the chances afforded by amputation appear to be infinitely greater than for subperiosteal tumours. And for those of the leg, forearm, or even of the arm, when the tumour has not extended beyond the limits of the bone or periosteum, for amputation resection may be substituted. Nay, in some few cases, where growth is slow, and the bone not too widely expanded, the tumour may, with advantage be dislodged, or scooped out from its cavity through an opening in the wall. For central tumours of the lower jaw and clavicle, resection or enucleation may be practised with the best hope of success. But for central tumours of the pelvis and the skull usually no operation should be practised, in both cases because the situation of the tumour often places it beyond the reach of operation; in the second case, because the central, like the subperiosteal, tumours of the skull are often multiple.

THE treasurer of Addenbrooke's Hospital, Cambridge, has received 100 guineas, as a first instalment of the proceeds of Hospital Saturday in the town.

ON "TENDON-REFLEX" AS AN AID TO DIAGNOSIS IN DISEASES OF THE SPINAL CORD.

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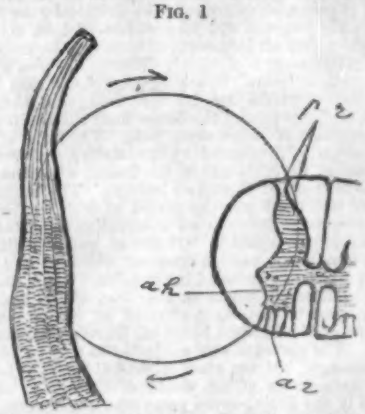
IN the following remarks it is provisionally assumed that the contraction of a muscle which follows a blow upon its tendon is of the nature of a reflex action. The adequacy of such an explanation is, I am well aware, contested by high authorities in physiology. Measurements of the interval of time which elapses between the blow and the contraction are thought to prove that this is too short for the phenomenon to be reflex. I cannot as yet consider this to be a conclusive objection, for whilst, of course, acknowledging the respect which is due to attempts at accurate measurement, experience shows that, even in very careful hands, where the question is one of delicacy—in the present instance it is a matter of a very few hundredths of a second—sources of fallacy are apt to occur in the experiments which vitiate the conclusion. It is quite conceivable, moreover, that a shorter period of time than is commonly needed for a reflex event is requisite for conduction through the centre, where, as in the present instance, the centripetal stimulation is in all probability unusually strong. Nor can we properly compare it with the time required for reflex from the skin, since the fact that in tabes, for example, whilst the skin-reflex is usually preserved intact, the tendon-reflex is always lost, shows that the conduction must, at least in some part of the course, take place through a different path.[1] At any rate, it seems advisable that at the present juncture the clinical facts should have due prominence, and there can be no question, I think, that they make out a strong *primâ facie* case in favour of the reflex character of the muscular spasm. With the view of aiding in the consideration of the question from this point of view some rough diagrams are reproduced, which I have been long in the habit of using in order to illustrate the connexion between certain pathological changes in the spinal cord and the absence or exaggeration of "tendon-reflex." For the sake of simplicity, the remarks will be confined as far as possible to "patellar tendon-reflex" and "ankle clonus" as representatives of phenomena which may, as is well known, occur in connexion with other tendons and muscles.

The patellar tendon-reflex may be conveniently tested, in most instances, by the following procedure, which differs from that usually employed. The patient, who is seated, plants his foot firmly down at such a distance that the leg forms a little more than a right angle with the thigh. Whilst the observer rests the palm of his left hand upon the patient's thigh, he strikes with some implement held in the right hand several blows upon the ligamentum patellæ at about an eighth of an inch or so below the knee-cap. I nearly always employ for this purpose an ebony stethoscope, with a very heavy ear-piece and an india-rubber cord-like ring sunk into a groove on its margin. The quadriceps muscle can be felt, and (if the patient is in masculine garments) can be seen to contract more or less vigorously in response. If it be desired to ascertain the mere presence of the "reflex," this is sufficient. If, however, the response is very small, or is doubtful, or does not occur at all, the thigh as well as the leg must be bared, and other measures adopted, before a conclusion is arrived at. The leg should be crossed over the other, or the patient should be made to sit upon a table with his leg dangling. In either of these positions the presence of the "reflex" will be shown by the foot being jerked more or less vigorously forwards when the ligamentum patellæ is struck. In the case of a patient undressed, and lying on a bed, the knee should be flexed, and the heel held firmly down upon the bedding whilst the blow is given on the ligament. The contraction of the quadriceps is readily seen.

Supposing that careful examination has established the absence of the phenomenon, we should next endeavour to ascertain at what point in the arc of nervous communication the break occurs by which the process is interrupted. Fig. 1 shows the normal condition, as it may be supposed

FIG. 1.



to be if the phenomenon be reflex. Impulses started by a blow on the tendon after traversing the afferent nerve, enter the cord in the posterior root, *p r*, and reach the anterior horn, *a h*, where they give rise to efferent impulses, which arrive by the anterior root, *a r*, at the muscle, and cause it to contract. From the tendon to the anterior horn is the sensory portion of the arc, whilst the motor part includes the anterior horn, anterior root, and intra-muscular nerve. The integrity of this nervous arc ensures the response of the muscle (provided the muscle itself be healthy) to a blow on its tendon. So also the fact that the quadriceps is found to contract freely when the ligamentum patellæ has been struck *almost always* signifies that the nervous arc is nowhere seriously interrupted in that part of the spinal cord which gives origin to the lumbar plexus. It is not, however, quite conclusive on this score, for a reason to which I shall refer later. If, on the other hand, careful testing shows the phenomenon to be absent, it is evident that there is a "fault" (as the miners say) or break at some point or other in the continuity of the nervous arc pictured in the diagram. Should the patient who presents this abnormality be walking freely about, and able to flex and extend his knee-joint with vigour, we may at once absolve the *motor* portion of the nervous arc from the suspicion of being the seat of interruption. Were it otherwise, and the break dependent on lesion in this direction, the "fault" must necessarily be either in the muscle itself (as, for example, from pseudo-hypertrophic paralysis), in which case there would be a very evident enfeeblement, or else either from lesion of the anterior root of the spinal nerve or atrophy of the large ganglion cells in the anterior horn. In each of these latter conditions there would be not only more or less muscular powerlessness, but also a considerable amount of muscular atrophy.

But the patient may have kept his bed for some time, and is weak and more or less emaciated. In this case it becomes necessary to resort to other expedients to ascertain the integrity of the motor part of the arc. If the knee-joint be capable of voluntary flexion and extension with a fair amount of force, it will be sufficient to percuss with some instrument the vastus internus where it projects just above and to the inner side of the knee-joint. This may be done with the thin ear-piece of an ordinary stethoscope.[2] If this blow, in these circumstances, excites a wave of muscular contraction, it may be taken as corroborative evidence that the muscle, motor nerve, and anterior horn are free from lesion. Should, however, there be a very powerless state of the limb, the occurrence of a wave of contraction in response to a blow

[1] The literature of the subject has rapidly become extensive, and includes, besides the work of Westphal and Erb, to whom is due the credit of inauguration, most important contributions by Tschirjew, Grainger Stewart, Gowers, Hughlings Jackson, Bramwell, Charcot, Brissaud, and Berger, amongst many others. There is an able article by Dr. Augustus Waller in *Brain*, Part X., in which the physiological side of the question is discussed, and the objections to the theory of reflex action are very forcibly put.

[2] Hawksley has made for me an ebony stethoscope, provided with a thick and also a thin ear-piece, which are interchangeable. The former is for percussing the tendon, the latter being used for the muscular structure.

upon the muscular structure of the vastus internus will not be sufficient to prove the integrity of these structures. I have found—and I do not think this fact is generally known—that a muscle which is cut off from its trophic centre either by lesion of a spinal nerve or atrophy of ganglion cells in the anterior horn of the cord, and which fails to contract to the strongest induced currents, will yet (provided it has not lost also the power of contracting to a slowly interrupted voltaic current—the reaction of degeneration) respond by a very palpable wave of contraction to blows upon it. So that if you strike a muscle and get a wave of contraction, all that you can predicate of it is this, that the muscle will respond to *some form* of electric excitation, not that it will necessarily respond to faradaism. A muscle which thus responds to a blow may be perfectly normal, or, on the other hand, it may be far advanced towards a state of irreparable degeneration. In the latter case, however, the necessarily powerless condition of the muscle secures you from error.

It must be remembered that the patellar tendon-reflex is lost somewhat easily, and as the result of a small amount of structural change. It will often be found wanting when there is but a slight lowering of faradaic excitability. It is best therefore, whenever there is the slightest doubt about the matter, to test very carefully by induced currents the reaction of the vastus internus, the rheophore being applied to its motor point. The importance of this is evident. If by any want of care in examination we jump hastily and erroneously to the conclusion that the motor side is not in fault, we are driven to the necessity of ascribing the break to a lesion on the sensory side, and the diagnosis is consequently ruined.

We will consider that no such want of care has been shown, and that the examination excludes the muscle, motor nerve, and anterior horn of grey matter from being the cause of the break in communication. We have now to fall back upon the grey matter of the posterior horn, the posterior root zone, and the posterior root. In one or other of these structures the "fault" must lie. Cases in which the patellar tendon-reflex is absent in health are so extremely rare that this possibility may practically be disregarded—at least until every other explanation has been exhausted.

Through the kindness of my colleague, Dr. Ramskill, I am able to refer to a case of extreme interest bearing upon this point. The patient is a young man who is affected with loss of power in the left lower extremity. There is no loss of sensibility, but very extensive wasting of the muscles of this thigh, and their excitability by induced currents is lowered. The right lower extremity is free from paralysis or wasting; he can flex and extend it vigorously, and the muscles respond normally to faradaic currents. In this limb, however, there is cutaneous anæsthesia to a very marked extent. He presents, therefore, a typical example of Brown-Séquard's hemi-paraplegia. There is a lesion, which circumstances show to be probably syphilitic, occupying more or less definitely the left half of the spinal cord in the lumbar region, and giving rise to motor paralysis on the side of the lesion, and anæsthesia on the opposite side. The occurrence of anæsthesia, in these circumstances, in the limb opposite to the lesion was explained by Dr. Brown-Séquard, it will be remembered, by the fact that the conductors of sensitive impressions from the trunk and limbs decussate in the spinal cord, so that an injury or disease of the left side of the cord—e.g., affects the conductors from the right side of the body below. Now in this patient the patellar tendon-reflex is absent in each leg, not only in the left, which is paralysed and greatly wasted, but in the right also, in which the motor power is intact, but the skin anæsthetic. To explain its absence from the left (paralysed) limb it is evident that the "fault" must be in the anterior horn of the left side of the cord, in the motor portion of the nervous arc. In the right limb, on the other hand, it is lost in connexion with lesion of some part of the sensory tract, the exact situation of which it is not easy to indicate. It seems probable that the lesion of the cord (myelitis), although greatly confined to one segment, is not absolutely so, but, whilst sparing the right anterior horn, encroaches to some extent upon the right posterior horn, and "cuts" the communication at this point. The case is a most interesting example of the fact that the absence of the knee phenomenon may be due to lesion in either the motor or the sensory portion of the nervous arc, both modes being exhibited in one individual. In certain cases—as, e.g., where there is a diffuse myelitis involving the whole transverse section of the cord—it may be due to both.

The most common and conspicuous illustration of a flaw on the *sensory* side destroying this reflex, is in the case of tabes dorsalis. Fig. 2 shows the position of the essential lesion in tabes sclerosis in the posterior root zone in that portion—i.e., of the posterior column adjacent to the posterior horn, which is largely composed of posterior (sensory) root-fibres making their way vertically to the grey matter above. Limitation of the lesion to this spot explains at once the almost constant connexion of lost reflex with the occurrence of lightning pains, whilst the integrity of the anterior horn and anterior root explains the fact that the quadriceps muscle is neither diminished in bulk nor materially weakened as well as that it usually responds perfectly to faradaic currents, and also to blows upon its structure. In my earliest published reference to the subject of tendon-reflex, I remarked of a case of tabes,[3] "The muscle is here, indeed, more than normally ready to contract upon direct local stimulation." Greatly extended experience since then has shown me that a condition of exceptional irritability to percussion is very common, perhaps indeed more frequent than not in tabes. Erb has since recorded a similar observation.[4] He writes, "In striking contrast to the loss of tendon-reflex, the mechanical irritability of the quadriceps is always completely preserved, and is frequently even very pronounced and lively." I showed the other day that in an elderly man with typical tabes in whom there remained not a vestige of tendon-reflex, the irritability to direct percussion of the vastus internus far exceeded that exhibited in the ward attendant, a young and healthy man with a powerful muscular system. An explanation of this increased excitability is probably to be found in the irritative lesion of the posterior root-fibres, the cause of the lightning pains. The symptom must be classed indeed, I submit, in the same category with the tendency to cramp in sciatica, and the clonic spasm of facial muscles which is so apt to occur in severe trigeminal neuralgia.

FIG. 2.

It occurred to me a few days ago to examine in reference to this subject a patient whose supra- and infra-orbital nerves have been recently stretched for severe neuralgia of the two upper divisions of the trigeminus on the right side. The patient was for a time greatly relieved, but is subject to occasional paroxysms of pain, and there yet remains a considerable amount of clonic spasm of the muscles on that side of the face. There is manifestly an abnormally irritable condition of the muscular tissue. This irritability, however, does not extend to the tendons. Repeated testing by percussion showed that the contraction of the zygomaticus major of the *left* (sound) side of the face, which followed a blow upon its tendinous origin on the malar bone, was distinctly much more energetic than that of the corresponding muscle on the *right* (affected) side. My reason for selecting this case for observation on this point was as follows. As is well known, the sensory supply to the face is derived from the trigeminus, the motor influence from the portio dura. Now, the sensory portion of the fifth is acknowledged to represent the posterior root of a spinal nerve. There had therefore been in the operation of stretching a kind of vivisection (with a therapeutical, not a physiological, object, as it happened) performed upon what is practically the posterior root of the nerve supply to the muscles of the face. In no other part of the body could the operation have been so limited to this effect; in the spinal nerves the posterior and anterior roots are united in one trunk. Now, supposing that nerve-fibres from the tendon take their course to the centre in the posterior root, as Tschirjew has stated, I ought to find, it appeared to me, the response to stimulation of tendinous fibres on the side on which the "posterior root" had been stretched, and therefore injured, less active than on the sound side. I had some difficulty in selecting a muscle

[3] THE LANCET, July and August, 1878.
[4] Zur Pathologie der Tabes dorsalis, Deutsch. Arch. f. klin. Medicin, Marz, 1879.

upon which the experiment could be tried, but the zygomaticus major showed it very well, although on a necessarily small scale. It is of no small interest to observe that although the muscular tissue was generally over-irritable (like the muscle in tabes) the response to a tap on the tendon was distinctly less vigorous than that on the sound side. I do not wish, however, to draw positive conclusions from a single observation of this kind. It would be well to repeat the examination in a patient affected with a destructive lesion of the fifth nerve, or in whom the infra-orbital trunk had been divided for neuralgia.

(To be concluded.)

ON CHIAN TURPENTINE AND ITS USELESSNESS IN CANCER.

BY HENRY MORRIS, M.A., M.B.,

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IN his second article "On Chian Turpentine and its Use in Cancer" (in THE LANCET, Oct. 2nd, 1880), Prof. Clay says, "Certain results obtained by the use of a remedy almost forgotten by the therapeutist, were placed by me unreservedly before the profession; and for the benefit of suffering humanity, at least, a fair trial of the remedy ought to be given before condemning it."

With what willingness a fair trial of this drug was entered upon and perseveringly continued at the Middlesex Hospital, and with what gladness we would have welcomed any measure of success with it, will be very readily believed by all who have to follow cases of cancer along their melancholy course to their tragical end. Moreover, the large opportunities for watching cancer of all kinds afforded by a hospital which, besides receiving cases of cancer for operation into its general wards, has a special cancer out-patient department open to all comers, and thirty-two specially endowed beds, which may be retained until the occupants are "*relieved by art or released by death*"; the tradition which makes it an essential part of the duty of the surgeons of the Middlesex Hospital to do whatever within them lies for the relief or cure of cancer; together with a large share in the universal desire that a remedy for this frightful, and frightfully common, malady may be discovered—naturally incline us to test the value of anything which seems to offer even the faintest ray of hope. Perhaps, however, it must be admitted that past experience of acetic acid, bromine, condurango root, and various other external and internal methods of treatment, deprives us, at the outset, of that enthusiasm of great expectations which some might possibly indulge.

But besides testing remedies, it is also expected that we duly lay before the profession the results, and it is on this account that I publish brief notes of the following cases.

In answer to those who have hitherto questioned the efficacy of Chian turpentine, Professor Clay has replied: (1) That "in a large percentage of cases factitious turpentine only has been used in the treatment of cancer"; (2) that a sufficient time has not been allowed to elapse for the full effects of the remedy to be manifested; and (3) that the full effects of the pure turpentine have not been gained in some instances because, owing to its incomplete compounding, the drug has not been entirely digested.

It is therefore necessary that I should state: (1) That the turpentine used in the following cases was at first some which was in stock at the hospital, and answered thoroughly to the descriptions of the genuine, pure turpentine. When this was exhausted, more was obtained from two well-known houses, and it was a sample of one of these which was publicly condemned by Professor Clay. Owing to the Professor's letter to the *Med. Times and Gazette* (May 15th), the use of these was at once stopped, and another supply was obtained, at his recommendation, from the Apothecaries' Company. Lastly, in the first week of October I commenced to use some placed at my disposal by a friend, to whom it had been sent by Professor Clay. It is this which I am still using, and have been doing ever since I received it. (2) As regards the length of time the drug has been administered, I can only say that in several of the cases, if the time has been insufficient, it has not been my fault or that of the patient, but is due to the fact that the disease continued to run its course, uninterrupted by the drug, to its fatal end. (3) Both the pills and the mixture have been made in strict accordance with Professor Clay's directions by Mr. Challice, our skilful dispenser, who had, prior to Professor Clay's last article, pointed out the way to avoid any separation of the resin.[1]

Professor Clay's confidence in the remedy having increased, he says he is justified "in stating that uterine cancer at least may be removed by the use of Chian turpentine;" and adds: "Most of the cases of cancer which have presented themselves are in an advanced stage of the disease, and more especially is this the case in cancers of the uterus. Yet the treatment continues to be very efficient." He has, too, put on record marvellous benefit accruing to four of his patients in such a very short time as four days, seven days, fourteen days, and sixteen days respectively, and has besides given one admirable result in a woman who, four months before, had been told at the Middlesex Hospital that "her case was incurable and that she had not long to live,"[2] but who after undertaking the journey to Birmingham became an in-patient at the Queen's Hospital, and was so much improved by the Chian turpentine treatment that in nine weeks she was "about to return to London with every prospect of soon being cured." None of the following cases, therefore, are open to objection on the ground that the disease was too far advanced when the turpentine was commenced; nor can the genuineness of the drug, or its method of administration, be fairly called in question.

CASE I. *Carcinoma of the fundus of the uterus; destruction of the whole organ; death.*—Ann H——, aged sixty, a cook, was admitted into Stafford ward on February 2nd, 1880. Single, and had never borne a child. General health always good, except that she had suffered greatly at her menstrual periods. Catamenia commenced before the sixteenth year, had always been scanty, and ceased altogether at fifty. No cancer in family. At the beginning of January, 1879, she began to feel very weak and unequal to her work. In August, 1879, bearing-down pain in the vagina commenced; and intense hæmorrhage, which had occurred once or twice previously, now became worse. Was treated at the Great Northern Hospital in September, 1879; since then the hæmorrhage has ceased; but soon afterwards an offensive whitish discharge commenced.

On admission she was fairly nourished, but pale looking; was cheerful in manner; but said she had lost flesh, as she was at one time very stout. Suffered greatly from dragging pain in the pelvis, and had a thick, offensive leucorrhœal discharge.

Vaginal examination.—There is no ulceration of the vagina or of the os or cervix of the uterus, but an indurated and uneven enlargement of the fundus.

Sedatives, with tonic and laxative medicines, were administered during February, March, and part of April; but on April 16th Chian turpentine, in the form of mixture, was commenced, and taken three times a day without interruption until the beginning of August, when it was omitted for a time on account of sickness.—May 4th: the pain complained of is severe and frequent, more especially after sitting up. Getting out of bed is followed by hours of severe pain. Discharge considerable and blood-stained.—May 11th: The discharge is sometimes quite black; it has increased the last eight or nine days, but is not so offensive.—May 21st: Pain still continues severe; takes opium or morphia twice daily, to relieve the pain over which the Chian turpentine mixture seems to have no influence.—June 25th: Still no ulceration to be felt per vaginam, but there is considerable and painful œdema of the genitals.

During September the Chian turpentine mixture was again taken, but irregularly, and only as it could be tolerated by the stomach. On Oct. 2nd it was again commenced to be taken regularly three times a day, and was so continued

[1] Vide Pharmaceutical Journal, June 26th, 1880.

[2] Professor Clay having courteously informed me of the name of this patient, I asked Mr. Fardon, the resident medical officer, to refer to her case, but though he has searched both the in- and out-door cancer registers for two years, and the obstetric registers for the last year, her name does not appear. As Professor Clay adds, the statements of patients are not always to be relied upon. It seems more than probable that in this instance he was misinformed.

up to the date of death.—Sept. 27th: The posterior portion of the cervix thickened and ulcerated; vagina intact; vaginal examination causes much pain, therefore the condition of the body of the uterus was not ascertained; bowels constipated; from this time the injurious effects of the disease very rapidly progressed, and she died on Nov. 7th.

Necropsy, by Dr. FOWLER, *twenty-nine hours after death.*—Body emaciated. Abdomen retracted. The uterus, with the exception of the os, and small part of the cervix, had entirely disappeared, and in its place there was a sloughy cavity containing fæcal matter. One of the adjacent and adherent coils of intestine had ulcerated through where it had formerly formed an adhesion with the uterus. The vagina was scarcely affected; the mesenteric glands were enlarged from cancerous deposit. On the posterior surface of the lower lobe of the right lung there was a small cancerous nodule the size of a pea. On the surface of the right kidney there was a small spot, probably a commencing secondary deposit of cancer. The kidneys were otherwise healthy.

Remarks.—In this case it will be noticed that the turpentine treatment was continued uninterruptedly for three months and a half, then omitted for about three weeks, and then taken irregularly, but mostly once or twice a day, for another two or three weeks, when it was again administered regularly three times a day for another five weeks. It should be added of this patient that she was very docile and intelligent, and entered readily into the trial of the effects of the drug upon her. She even willingly consented to forego the anodynes (opium, morphia, and belladonna) which were given internally and applied externally to relieve her great sufferings; but after a fair trial of the anodyne effect of the turpentine, I felt that it was cruel, notwithstanding her willingness, any longer to withhold the other drugs, as she suffered so much more severely when not under their influence.

CASE 2. *Carcinoma of vagina, clitoris, urethra, and external genitals; death.*—Mary H——, aged fifty-five, was admitted into Stafford ward on Feb. 12th, 1880. A married woman, mother of six children, the youngest of whom was twenty-one years, and the eldest thirty-one years; no miscarriages. Her catamenia appeared at twelve; had always been regular and painless till the present time; general health always excellent. No family history of cancer. For the last two or three years has had a "weakness about the womb," with some offensive discharge, but without hæmorrhage or pain. Has lately been treated for a few weeks as an out-patient at two different London hospitals; has not been losing flesh, nor has she felt ill, though she has not been equal to much work of late.

On admission she was a stout woman, with rather relaxed, flabby tissues, somewhat anæmic, but not cachectic.

Vaginal examination.—The posterior wall of the vagina and the os and cervix uteri are normal. Immediately behind the anterior fourchette of the vulva, and extending backwards from this so as to involve the clitoris, urethral orifice, and floor of the urethra, together with the corresponding surface of the vagina, is a nodular, ulcerated, and indurated tract, projecting both into the vagina and forwards towards the bladder, and extending more on the right than on the left side. Above this is an area of healthy vaginal wall. In the left iliac region the glands are enlarged. Has incontinence of urine, but not much discharge.—April 2nd: The lower wall of the urethra is destroyed by ulceration; the base of the bladder bulges against the anterior wall of the vagina immediately beyond the ulcer; complains of much scalding pain. Chian turpentine in pills commenced to-day; all other remedies discontinued. On May 11th there was no relief from the pain; the discharge was profuse, and of a very offensive odour. Morphia was now required twice a day. On May 18th the turpentine pills were replaced by the turpentine mixture. She died rather suddenly on May 20th, suffering greatly to the end.

Necropsy, by Mr. LYELL, *twenty-two hours after death.*—Body very well nourished. A large quantity of fat subcutaneously, and throughout the body generally. Externally, part of the genitalia had been destroyed by cancerous ulceration; the clitoris, orifice of the urethra, and parts around this having disappeared. On removing the pelvic organs, the knife in front entered the cavity of the bladder, the front wall of which was adherent to the back of the symphysis pubis. The greater part of the front wall of the vagina had disappeared, together with the whole of the urethra, so that the bladder opened into a cloaca formed by the remainder of the vagina. The mucous membrane of the back of the vagina was in places roughened from deposits of a soft mortary, phosphatic nature. The base of the bladder and what remained of the anterior wall of the vagina were infiltrated with whitish, firm, cancerous material, which also completely infiltrated the surroundings of the bladder at its lower part. When the bladder was laid open along its anterior surface, it was seen that the mucous membrane around the ulceration was covered with a mortary, phosphatic deposit about an inch and a quarter wide. Above this the mucous membrane was of a dark-red colour, and speckled all over with small adherent phosphatic deposits. The uterus weighed twelve ounces; the cervix was natural, but the body was much enlarged, and contained four intramural fibromata about the size of walnuts. Rectum normal and partially empty. The kidneys were granular, with adherent capsules and diminished cortex; the right contained a small superficial cyst; the pelvis of neither was altered. The abdomen contained no fluid or evidence of recent inflammation. There was a slight excess of the quantity of fluid generally found in the ventricles of the brain.

Remarks.—It will be noticed that in this case a large vesico-vaginal fistula existed. Though the kidneys were granular, it is specially mentioned in the post-mortem report that the conditions due to obstruction of the ureters were not present. Professor Clay states that when the *anterior* wall of the vagina is involved the case is not so suitable for the treatment, and the turpentine is not well tolerated; "*but when a fistula forms it is better borne.*"

CASE 3. *Cancer of the uterus; death.*—Emma T——, aged twenty-eight, was admitted to Stafford ward, March 4th, 1880. Married, and had five children in five years. Catamenia first appeared at fifteen, and continued regular until October, 1879. General health always good till fourteen months before admission. No cancerous history. Has never been well since the birth of her last child in December, 1878, since which she has had a continuous yellow discharge, has never menstruated, and has suffered severe pain in the abdomen. Has never flooded.

On admission the vagina was intact, the uterus movable, fundus enlarged, os and greater portion of cervix disappeared. What remained of the cervix was greatly indurated, much thickened, and very irregular. Above the line of ulceration there were a few shot-like nodules. Discharge offensive.—April 2nd: Complained of great pain in the left side of the abdomen, and for the last three or four days had been losing a little blood. There was the same hard ulcerated condition of the cervix; the edges of the ulcer were everted. Chian turpentine in pills was commenced, to be given twice a day, all other remedies being discontinued.—4th: Feels decidedly better; has much less pain, but still a little hæmorrhage.—6th: The Chian turpentine pills discontinued, and the mixture given three times a day instead. Pain to-day is as bad as ever, and is of a twisting character; has had less hæmorrhage.—13th: Pain varies slightly from time to time, but on the whole is much less. The discharge is not so great, but is more offensive now than formerly.—27th: Is suffering from indigestion and morning sickness. The uterine discharge is less.—May 4th: Chian turpentine discontinued, and a mixture of bismuth and calumba given instead.—11th: Has been taking the turpentine mixture again for the last three days. There is no difference in her condition.—25th: Has been getting gradually worse since last note. The discharge is greater in quantity, offensive in character, and of a browner colour. The uterus is very painful and tender to the touch. Her mouth is parched; she has a great craving for liquids. Subsequently she had a mild attack of pericarditis, from which she rallied.—June 4th: She had very severe hæmorrhage, which was not stopped until the vagina was plugged. The Chian turpentine discontinued to-day, and tincture of ergot given. She died on June 7th from exhaustion. No post-mortem allowed.

CASE 4. *Cancer of the uterus and vagina.*—Charlotte W——, aged fifty-five, applied to the cancer out-patient department of the Middlesex Hospital on March 4th, 1880, suffering from cancer of the uterus and vagina in an early stage. She was married and the mother of three children. Until April 1st she was treated with quinine and iron mixture, and Condy's fluid as an injection. Chian turpentine in pills was now ordered.—April 8th: She said that she was sure she was better for the pills, having had no

haemorrhage, less watery discharge, and less pain.—July 1st: Seen again to-day, as she is not so well. She has not attended before since the last note was made, as she had been feeling better; but the pills given her on April 8th could not be retained, as she retched so much after them. She was now ordered to try the mixture, but she would not persevere with it.

Remarks.—This case is purposely included, not because it shows the effects of Chian turpentine, but because it is an example of a class of patients very likely to excite false hopes as to the result of the treatment. After taking a tonic for three weeks, and the turpentine for a week, and using a cleansing injection the whole time, the local symptoms were relieved. As her general health had not yet become affected by the disease she was sufficiently well satisfied with her improvement to leave off all treatment for some months. Had she been taking the turpentine several weeks, one might perhaps have supposed, from her own account and her long absence, that she had been cured by it.

(To be concluded.)

CLINICAL REMARKS TO STUDENTS

ON THE

DIAGNOSIS OF THE VARIOUS FORMS OF CONGENITAL HEART DISEASE.

BY SEYMOUR J. SHARKEY, M.B.,

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GENTLEMEN,—You cannot have failed to notice that we have seen in the out-patient room during the last six months an unusually large number of patients suffering from congenital diseases of the heart; and it must also have struck you that the information I gave you regarding them was singularly vague and unsatisfactory. When patients have presented themselves suffering from heart disease which they have acquired since birth, owing to attacks of rheumatism or lesions dependent upon other causes, our diagnosis of the particular valve affected, and of the conditions of the several cavities of the heart, has been given with a considerable degree of confidence. But in cases of congenital disease assertions have given way to suggestions, and I have usually bluntly acknowledged that I could not say what the position or nature of the lesion was. And this I have done, and still do, without the least appearance and actually without the least sense of shame. For the bold confession of ignorance is better than the assumption of a wisdom to which we may aspire, but which we certainly have not yet attained.

The actual pathological condition of the heart, when the seat of congenital disease, is less frequently diagnosed by the bedside than the pathological condition of any other organ, with, perhaps, one exception—the all-but-immaculate pancreas. It is rarely that a physician ventures to breathe so much as a word of suspicion against the integrity of this organ, which, while well known to play a most important part in digestion, seems to enjoy a remarkable immunity from disease. The reputation for innocence which the pancreas has obtained is, however, well earned. For pathology, in spite of its efforts, records but few well-founded accusations against it. In the case of the heart, on the contrary, medical literature abounds in a variety of the most fatal lesions, with which children are afflicted from their very birth; and notwithstanding this, the cases in which a physician is able to state what the disease or malformation is are exceedingly rare. What I wish to explain to you now is, why our endeavours in this direction are so fruitless. Let me refresh your memories by alluding briefly to some points in connexion with the development of the heart, for you will find that a right appreciation of the abnormal conditions which it presents at birth depends altogether on a knowledge of its intra-uterine history. The heart at one time consists of a mere tube, which doubles upon itself, receiving at one extremity two veins—the omphalo-meseraic veins,—which come from the yolk-sac, and giving origin at the other to a large arterial trunk, the bulbus arteriosus. The latter divides into two arches, a right and a left, which are the primitive aortæ, and these again unite into a single trunk in the body of the embryo. It is unnecessary for our purpose to follow the development of the pulmonary artery, aorta, and vascular supply of the upper extremities and head from the vessels which run in connexion with the visceral arches, or to trace out in detail the gradual formation of the venous system; but it is necessary to state that the heart, which originally consists of two cavities separated from each other by a constriction, is gradually divided into four. This is effected by the growth of two septa, one dividing that part of the organ which receives the veins into two primitive auricles, and the other dividing that part from which the arterial trunk arises into two ventricles. A partition and valves, which are the auriculo-ventricular valves, also separate the auricular from the ventricular portion of the heart. The auricular and ventricular septa are of gradual growth. The latter grows from below upwards and forwards, and leaves for some time an aperture of communication between the two ventricles. The auricular septum grows from before backwards, but up to the period of birth it is perforated by a valved orifice—the foramen ovale. These defects in the septa, the foramen ovale, or other larger communication between the auricles, on the one hand, and the aperture between the ventricles on the other, are of special importance in pathology; and I wish to call your particular attention to them, as they figure largely in congenital diseases of the heart. The normal condition of the circulation just before birth is roughly this: The blood coming from the body generally, and from the placenta by the great veins, enters the right auricle; part is directed by the Eustachian valve through the foramen ovale into the left auricle, part goes into the right ventricle. A small portion only of the latter is conducted by the pulmonary artery to the still inactive lungs; while the rest is propelled by a short cut, the ductus arteriosus, into the aorta, and reaches the placenta and lower parts of the body. At this period, therefore, the right ventricle carries on the principal part of the systemic circulation. The blood from the lungs returns to the left auricle, and there meeting the stream which has come through the open foramen ovale from the right auricle, passes on into the left ventricle and aorta, and supplies the head and upper extremities, a small portion passing onwards to join the stream from the ductus arteriosus in its journey to the lower parts of the body. The whole mass of blood then returns from the upper and lower parts of the fœtus to the right auricle (from which our description started), and commences the circle anew.

It will be seen that the foramen ovale and ductus arteriosus are nothing more than short cuts, by which the blood reaches the general circulation without having to go through the lungs, which are at this time almost impervious. The changes in the heart, which occur at birth, mainly have reference to these two structures; for on the sudden expansion of the lungs with the first inspiration, the blood is drawn into them, and gradually ceases to go through the contracting ductus arteriosus. It then returns in a full stream from the lungs to the left auricle, and closes the valve of the foramen ovale. The closure of the ductus arteriosus and foramen of ovale takes place during the first month of extra-uterine life, and the circulation is then such as we find it in the adult.

Congenital diseases of the heart have their origin either in arrest of development or malformation of some part of the organ, or else in inflammation of its growing structures, or, perhaps, still more commonly in a combination of these two causes. For instance, some cases consist in simple patency of the foramen ovale, without other detectable abnormality. Such an arrest of development may allow the venous blood in the right auricle to mingle with the arterialised blood in the left without passing through the lungs. When students have a case of congenital disease of the heart pointed out to them for the first time, they almost always ask whether it is a case of "patent foramen ovale." But patency of the foramen ovale, pure and simple, is of extreme rarity. It is true that this orifice very often remains open in congenital diseases, but such a condition is almost always secondary to some disease of the valves or other structures, and so far from adding to the gravity of such cases, it is often absolutely necessary for the continuance of the circulation at all. If, for instance, there is an obstruction which prevents the blood from going in sufficient quantity through the pulmonary artery, some passage such as the foramen ovale must remain open to allow the blood to reach the left side of

the heart; and if no such passage exist, the child cannot live.

Much more frequent than these simple orifices in the septa of the heart are those cases where there is some stenosis of valve or vessel, produced by inflammation or by malformation of the part. All such lesions occur infinitely more frequently on the right side of the fœtal heart, while those which arise after birth are almost confined to the left. Consider what must happen if a child is to live, in whom either the pulmonary artery or the right auriculo-ventricular orifice is partially or entirely obliterated. To reach the aorta the blood on the right side must by some means make its way to the left side of the heart; and as it is prevented from flowing onwards through the pulmonary artery, it finds a passage in the direction of least resistance, through the incomplete auricular or ventricular septum, and so—fortunately for the life of the child—prevents these apertures from closing. But while the natural thoroughfare for the venous current to the lungs is thus blocked, and the stream conducted in another channel, it is essential that some device should be found whereby a sufficient quantity of the circulating fluid may be exposed to the air in the respiratory organs. To reach the pulmonary artery the blood sometimes travels along the aorta into the ductus arteriosus—which, as you know, connects these two great vessels,—and so on into the lungs. Hence it is that the ductus arteriosus may be kept open in such cases, and the bronchial or œsophageal arteries may also enlarge and assist in the pulmonary circulation. Sometimes, however, no such collateral circulation being set up, the patient has to carry on the vital processes on the small quantity of oxygen which can be taken up by a feeble stream of blood driven through a contracted orifice.

In those rarer cases where there is some obstruction on the left side of the heart, which prevents a sufficient quantity of blood from passing into the aorta, the pressure of the fluid stagnating on the left causes a stream to flow through some aperture in the septa into the right side, from whence it may be carried by the pulmonary artery not only to the lungs, but also through the ductus arteriosus into the descending aorta, the right ventricle then carrying on, as it does in the fœtus, a great part of the systemic circulation.

The ordinary clinical cases of congenital disease of the heart depend thus on an obstruction of some orifice or vessel and a patency of some of the fœtal communications by means of which the blood gets to parts beyond the obstruction. In some of these cases it is possible that the patency of the fœtal opening may be due to an arrest of development, and be the primary event, while the contraction of the vessel, owing to diminution of blood-pressure in it, is the secondary; but if so, the clinical result remains the same.

The object of the complete separation of the cavities of the heart in the adult is, that all the blood may go through the lungs and be arterialised before reaching the general circulation. Congenital diseases usually entail a mixture of the venous and arterial blood, which is one factor in the production of the typical cyanosis in these cases. The septum ventriculorum is completed somewhere about the third month of fœtal life; and therefore if any disease arise after that time the foramen ovale or some larger defect in the auricular septum must be the passage of communication between the two sides of the heart. If the disease occur earlier than the third month, then the ventricular septum may remain open, either alone or in addition to the foramen ovale. Hence it is that the condition of the heart in the patient will vary according to the time at which the disease or malformation occurred. *(To be concluded.)*

ON CATARRH OF THE STOMACH IN CHILDREN.

BY EUSTACE SMITH, M.D., F.R.C.P.,

PHYSICIAN TO H.M. THE KING OF THE BELGIANS, PHYSICIAN TO THE EAST LONDON CHILDREN'S HOSPITAL AND TO THE VICTORIA PARK HOSPITAL FOR DISEASES OF THE CHEST.

(Concluded from page 806.)

THE febrile form of gastric catarrh, although far from being rare, is yet much less common than the non-febrile variety. Catarrh of the stomach, unaccompanied by fever, is perhaps the commonest derangement to which children are exposed. It is a constant danger to hand-fed babies, and forms, indeed, the chief obstacle to the successful rearing of infants. Even in the case of older children, if of frequent occurrence, it may seriously affect nutrition, and interfere with development and growth. Most children suffer at times from what is called "biliousness." For two or three days together they lose their appetite; mope and lie about; have a dull, pasty, or sallow complexion, and look dark under the eyes. At night they sleep badly, and they are restless and irritable in the day. These symptoms are produced by a temporary catarrh of the stomach, which interferes for the time with the digestion of food, but, passing off, leaves no ill consequences behind. When, however, the attacks are frequent, digestion is weak even in the intervals of comparative health, and nutrition becomes seriously impaired. Such children complain often of flatulent pains in the sides, and may be subject to attacks of syncope from pressure upwards of the distended stomach against the heart. Their bowels are usually costive.

These symptoms may be greatly aggravated by an injudicious dietary. If a child who suffers from the condition described be supplied with an excess of fermentable food, such as potatoes, puddings, jams, and sweet cakes, he is kept in a state of chronic acid dyspepsia, which is a source of constant discomfort to himself and anxiety to his friends. The whole system being full of acid, generated by fermenting food, the child is wayward and cross in temper, and excessively fidgety and restless. His speech is often hesitating, and he may stammer in his talk. His muscles are irritable and twitch easily, so that he winks his eyes and distorts in nervous fashion the corners of his mouth. The so-called nervous habits of children often owe their origin to this derangement.

Sickness is not a common symptom in these cases, for gastric catarrh is by no means always accompanied by irritability of stomach. Sometimes, however, the child at rare intervals brings up a large quantity of sour-smelling fluid and mucus. Frontal headache, more or less severe, is rarely absent, and oftentimes the pain is very distressing. The wearing periodical headaches of children are usually owing to this cause. The urine is from time to time noticed to be thick with lithates, and, in rare cases, quantities of fine uric-acid sand are passed, precipitated by the free acid with which the urine is charged. At such times the urine may contain a trace of albumen.

Symptoms such as the above show a high degree of digestive derangement, aggravated by an unsuitable dietary, and are almost invariably the consequence of repeated attacks of catarrh of the stomach. Under such circumstances nutrition is interfered with, the child wastes perceptibly, and the apprehensions of the parents are carried to a high degree. When, on the other hand, the indisposition is only occasional, and the symptoms are not severe, little attention is excited. The child is supposed to be a "bilious" subject, and unless the attacks become so frequent as to cause an evident diminution in bulk, or some new symptom is noticed which excites the alarm of the friends, medical advice is considered unnecessary.

In cases where, owing to the mildness or the infrequency of the attacks of gastric development, general nutrition has not suffered, the occurrence of fainting-fits may induce the parents to apply for medical assistance. Attacks of syncope, more or less complete, are not uncommon in these cases. They, naturally enough, give rise to great anxiety; especially if conjoined with palpitations and flatulent pains about the chest. They are then considered to be symptomatic of heart disease. Thus:—"Miss W——, aged eleven years and a half, fainted for the first time six years ago. She has since fainted on five different occasions. At these times she has always been noticed to be dull and languid, with a poor appetite, but otherwise has seemed to be well. Is subject to sharp pains in the left hypochondrium, under the influence of which her face will become ghastly white. She sleeps badly, talking and moaning, and often lies awake at night. Has never suffered from worms; bowels costive. Has sometimes a sallow complexion." This young lady, who was a well-grown, well-nourished girl, with perfectly sound organs, soon lost all her symptoms under suitable treatment.

Whether the gastric catarrh assume the febrile or the non-febrile form its treatment is the same. Our object is, firstly, to put a stop to the existing derangement, and, secondly, to adopt such measures as will prevent its recurrence.

To cure the existing catarrh we must do our best to remove all sources of irritation which may be keeping up the

disorder. The acrid mucus, a free secretion of which is one of the ordinary phenomena of the catarrhal state, is a constant cause of fermentation and acidity. It very quickly induces an acid change in the more fermentable articles of food. Therefore, if the stomach be oppressed by sour matters, shown by uneasiness at the epigastrium, or sour smell from the breath, and a feeling of nausea, immediate benefit will be derived from an emetic dose of ipecacuanha wine. Afterwards a draught, composed of tincture of nux vomica, with bicarbonate of soda, in water sweetened with spirits of chloroform, taken two or three times in the day, will soon restore the gastric mucous membrane to a healthy condition. Strong purgatives are to be avoided, but as there is usually constipation in these cases, an occasional mild aperient will be required, such as compound liquorice powder or castor oil. If there be fever, which does not subside after the action of the emetic, the child may be allowed to take fluids from time to time in moderate quantities. The best are unsweetened barley-water, flavoured, if desired, with orange-flower; toast-water, or fresh whey.

During the treatment, as long as any signs of acidity of stomach persist, care should be taken to exclude from the diet all matters capable of favouring the tendency to fermentation of food; and even for some time afterwards, readily fermentable substances, such as starches and sweets, should be taken sparingly, lest the derangement be encouraged to return. At first nothing should be allowed but freshly made broths, with dry toast; and when milk is once more permitted, it must be guarded with a fourth part of lime-water, or with saccharated solution of lime, in the proportion of twenty drops to the teacupful. While the derangement continues no fruit, cakes, sweets, light puddings, or potatoes should on any account be permitted to be taken. When the appetite begins to return, a little fish, chicken, or mutton may be allowed, but the child must not be pressed to eat; indeed, until its digestive power be completely restored, the utmost care must be taken not to overload the stomach with food.

The above measures will effect a considerable improvement in the condition of the child, but at this point the treatment may be said only to have begun. The patient is in a weakly state from successive attacks of gastric catarrh. We have, therefore, to adopt means to strengthen the digestive powers, and take such precautions as will ensure him against a relapse.

To give tone to the stomach and strengthen digestive power preparations of iron are required. A common practice in such cases is to administer the preparation of the phosphates of iron and lime known as "Parrish's Chemical Food." This syrup is a very favourite remedy with mothers, who, misled perhaps by the name, give it largely, and with the worst results. Theoretically, no doubt, it is an active tonic, but practically it is highly pernicious. The reason is that the syrup in which the phosphates are dissolved supplies materials for fermentation, and each dose is soon followed by flatulence and acidity; so that the medicine really aggravates the mischief which it is intended to allay. The better plan is to give the dialysed iron, or, if there be any tendency to acidity remaining, the ammonio-citrate, with a few grains of bicarbonate of soda, sweetened with aqua chloroformi. After a time a change may be made to the solution of strychnia, with the perchloride or pernitrate of iron, given directly after food. All this time the quantity of fermentable material taken at meals must be restricted, as already recommended. During the same time a mild aperient should be given every few days, whether it seem to be required or not, to ensure a proper relief to the bowels and prevent the retention of any excess of mucous secretion.

In spite of this treatment, however, the child will not be secure against relapses unless special precautions be taken to guard the body against chills. The catarrhal state, whatever be the organ affected, tends constantly to repeat itself under the influence of slight causes; and there is little doubt that it induces an extreme sensitiveness to changes of temperature. Children who suffer from attacks of catarrh of the stomach or bowels should wear a broad flannel binder applied tightly to the abdomen, so as to reach from the hips upwards to the armpits, and the medical practitioner should look upon it as his first duty in these cases to see that it is properly applied. The binder should be considered as part of the child's ordinary dress, and be cast off at night with the rest of its clothes. In many cases it is necessary, in addition to the above precautions, to fortify the resisting power of the child by cold bathing. Some circumlocution is, however, often necessary in recommending this step to parents. Mothers are apt to take fright at the very mention of cold water; and it is true that in the case of weak children reaction is difficult to establish, so that a cold bath given in the ordinary way would not be attended with benefit. There is, however, a method by which the most delicate child may take a perfectly cold bath with safety and advantage. The method consists in first stimulating the skin by friction, so as to enable the body to resist the shock of the cold douche, and then in lessening the shock itself by placing the patient in hot water. Thus, if a child on rising from its bed be well shampooed over the whole body, but especially over the back and spine, and be then made to sit in a few inches of quite hot water, a good douche of cold salt water over the shoulders will have a highly invigorating effect, and be followed by immediate reaction. After being dried, the body may be rubbed with flesh gloves, and afterwards, if thought desirable, the child can be returned for a short time to his bed. Before beginning the process the patient should take a little bread-and-butter, or a drink of milk. The continued use of this bath, besides having a remarkably tonic effect upon the system generally, confers great resisting power against changes of temperature, and considerably reduces the child's susceptibility to chills.

By means such as have been indicated, the most obstinate cases of gastric catarrh may be treated with success. But it should be borne in mind that success depends upon equal attention to all the points which have been insisted upon. A flannel binder will be of little value if the tendency to fermentation be encouraged by the immoderate use of starches and sweets; and even cold douching may not be sufficient to neutralise the ill effects of rapid changes of temperature acting upon a body imperfectly protected from the cold. In all cases it is advisable to avoid the use of syrups in making medicines palatable to young children. The Pharmacopœia syrups are not well borne by young subjects, and often do more harm than good. It is far better to sweeten a child's physic with glycerine, or a few drops of spirits of chloroform.

George-street, Hanover-square, W.

CASE OF

STRANGULATED FEMORAL HERNIA IN AN INSANE PATIENT.

OPERATION; PERITONITIS WITHOUT DEVIATION FROM NORMAL PULSE AND TEMPERATURE; RECOVERY.

BY S. A. K. STRAHAN, M.D.

W. S——, aged fifty-one years, was admitted into the East Riding Asylum on the 24th June, 1880, suffering from a first attack of insanity—melancholia with strong suicidal tendency. On admission he was found to have a large scrotal hernia (right) of long standing and a hydrocele of the left tunica vaginalis testis. He was very weak bodily—evidently the result of having partaken sparingly of food for some time previous, as he laboured under the delusion that there was no passage for food through his body.

For seven weeks after admission he partook of food in reasonable quantity, under protest; at the end of which time he refused all food, and had consequently to be fed twice or oftener daily by means of the stomach-pump. This feeding was continued up till Sept. 17th (four weeks), with a few intermissions of a day, or in some cases two days, when he ate reluctantly on the pump being ostensibly put in order.

Sept. 18th.—This evening he complained of abdominal pain, which he attributed to eating so largely. His abdomen was at once examined, when, in addition to the scrotal hernia already noticed, there was found a femoral hernia (left), about the size of a walnut, tense, painful, inelastic, and giving a dull note on percussion. Gentle taxis was applied without appreciable effect, and afterwards the following means for facilitating its reduction were tried without success—namely, warm bath, opiate, chloroform, and injection of water per rectum.

19th.—Symptoms of strangulation appeared to-day, six-

teen hours after the discovery of the hernia, and at 4 P.M. the operation for its relief was performed under chloroform by Dr. Whitcombe, medical superintendent. Gimbernat's ligament was the seat of stricture, but after this was divided, it was found necessary to open the sac, because of bands formed in its neck. All constrictions having been removed, the hernia—which consisted of about two inches of small intestine of a dark slate-colour, from strangulation—was returned to the abdominal cavity, the external wound brought together by means of three silk sutures, and a pad of dry lint and a bandage applied. Patient was then placed in bed and had one grain of opium, to be repeated every four hours; milk and brandy to be taken in small quantities.

20th.—Patient passed a good night, and was going on well till 5 o'clock this evening, when symptoms of peritonitis appeared—viz., abdominal tenderness, tympanites, sickness, pinched features, &c., but no rise of temperature or quickening of the pulse. Opium increased to one grain and a half every four hours.

21st.—Patient passed a fair night; sickness absent this morning, but abdominal tenderness, tympanites, dorsal decubitus, and pinched expression remain. Pulse 84; temperature 98·4°; tongue furred; takes small quantities of milk and brandy freely; very slight action of bowels this morning. Opium reduced to one grain every four hours.

22nd.—Patient very restless during the night; symptoms of peritonitis increased this morning; complains of nausea and abdominal pain; tympanites increased. Pulse 84; temperature 98·5°. Opium again increased to one grain and a half every four hours.—3.30 P.M.: Severe exacerbation of peritoneal symptoms; tympanites increased; whole abdomen exquisitely tender; thoracic breathing; frequent vomiting and hiccough. At this time pulse 84, weaker; temperature 98·4°.

23rd.—Patient slept the greater part of the night under the influence of opium; looks better to-day; sickness absent; tympanites and abdominal tenderness greatly diminished; breathing less confined to thorax; tongue furred; pulse 84, stronger; temperature 98·4°. Opium again reduced to one grain every four hours.

24th.—Patient continues to improve; tympanites and abdominal tenderness entirely absent. Pulse 85; temperature 98·4°; opium discontinued; tongue furred; appetite bad. A pint and a half of tepid water was injected per rectum this evening, after which the bowels acted freely.

From this time the patient continued to improve, and on Oct. 1st was quite recovered from the operation and its effects. I may state that our patient was not left alone day or night until completely recovered.

Remarks.—Of the many interesting points in this case, the most important is the remarkable fact that following a wound of the peritoneum we had present every sign and symptom of inflammation of that membrane except increase of temperature and quickening of the heart's action, the two most common—in fact, the two ever-present—attendants on inflammation. And, again, that during strangulation of the herniated portion of intestine—when we had sickness, pain around the tumour, hiccough, vomiting (which was before the operation of that character known as stercoraceous), and the pinched expression of features which is indicative of suffering and collapse—we had the heart insensible to this disordered state of the system, contracting with the utmost regularity, and the temperature of the body maintained at the normal. Nor had we at this time any deficiency in the cutaneous circulation, or in that of the extremities. Is this strange indifference of the heart to serious changes in the surrounding organs, and this unvaried production of heat in the body, to be attributed to disease of the nervous system—to disease confined to some of those nervous centres acting over limited areas which have of late years been mapped out and given "a local habitation and a name"?

I may state that no pulmonary or cardiac disease can be detected, nor have we strabismus, inequality of pupils, loss of motion, or any abnormal increase or decrease of any of the senses, or other physical sign of organic disease of the nervous system.

The case is also of value as a good example of the excellent results often found to follow dry dressing and rare interference with wounds. In this case the primary pad of dry lint was not removed until the fourth day, when it was discovered that the wound had healed by the first intention.

East Riding Asylum, Yorks.

NOTES ON A CASE OF

RUPTURE OF THE EYEBALL IN A PATIENT SUFFERING FROM HÆMORRHAGIC DIATHESIS.

BY A. EMRYS-JONES, M.D.,
ASSISTANT-SURGEON, ROYAL EYE HOSPITAL, MANCHESTER.

W. R——, aged fourteen, of Waterfoot, was admitted into the Eye Hospital on Nov. 1st, 1878, under Dr. Little. The boy was a weaver by trade, and on admission, although he looked pale, he was otherwise healthy. On examining his right eye I found that the shuttle from the loom where he was working had struck his eyeball and ruptured it through the entire breadth of the cornea and sclera, and the hæmorrhage was profuse. Pads and a firm flannel compress bandage were at once applied, but in spite of repeated changing the blood kept oozing through them. Astringent applications and compress bandages were next tried, but without improvement.

Next day the mutilated globe was enucleated, and the contents of the orbit to a great extent removed, and then the cavity was carefully packed with cotton-wool dipped in tincture of perchloride of iron, kept in position by a firm compress bandage. It was next packed with cotton-wool, mixed with powdered sulphate of copper and sulphate of iron, but these were of no avail. Cotton-wool steeped in collodion, well packed and allowed to dry, controlled the hæmorrhage for a time. The subcutaneous injection of ergotine, the internal administration of ergot, sulphuric acid, and other astringents was tried. Even the actual cautery, which was thoroughly applied, proved inefficacious. The oozing was persistent for a fortnight, when the boy's father insisted on taking him home, and now, for the first time, admitted that the boy was subject to attacks of bleeding from slight causes. They were both very reticent about giving any information on this point. The pulse kept up fairly the whole time, but he became very weak and blanched. On leaving the hospital his orbit was carefully packed with cotton-wool steeped in collodion. A week later his father wrote to me that the bleeding had continued for a few days, and that ultimately the boy "fell into a faint," and the hæmorrhage entirely ceased. In January, 1879, I saw the boy again quite in his usual health. The interest of the case seems to me threefold—1st. The extreme rarity of such a coincidence; I do not know of any recorded. 2nd. The failure of all the usually reputed remedies. 3rd. The favourable result through natural processes.

A Mirror OF HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prooemium

ST. THOMAS'S HOSPITAL.

TRACHEOTOMY IN A CHILD UNDER SIX MONTHS OLD; RECOVERY.

(Under the care of Mr. CROFT.)

THE following case, for the notes of which we are indebted to Mr. H. Percy Potter, surgical registrar, is interesting, chiefly on account of the urgency of the symptoms and the relief and subsequent recovery after tracheotomy in so young a child.

The mother stated that during the night previous to admission she noticed swelling on each side of the neck, causing the child to breathe hurriedly and with much difficulty. There was no cough. The patient had suffered from erysipelas of the arm and back following vaccination in August.

The child was first seen in the out-patient department on Sept. 25th, with erysipelatous inflammation and œdema of

the whole cervical region, extending to the upper part of the chest; considerable dyspnœa and no croupous cough. The case was at once admitted into the hospital and placed under the supervision of Mr. Croft. An attempt was made to examine the fauces for false membrane, but it was impossible to inspect the throat owing to the swelling. A hot bath was given, and ipecacuanha wine, which induced vomiting. Relief was afforded by this treatment, but at midnight, on account of the increased dyspnœa with lividity, Mr. Potter performed tracheotomy under chloroform. The trachea was easily reached, opened by the usual vertical incision, and a silver tube was introduced. Artificial respiration was employed for several minutes. The child was placed in a tent, and steam was diffused in the atmosphere. The mother had suckled her infant throughout.

After the operation the child coughed up several small pieces of cartilage—probably from the rings of the trachea; the swelling and inflammation of the neck subsided, and an india-rubber tube was inserted, and the child did well.

WESTMINSTER HOSPITAL.

GALACTOCELE; INCISION; CURE.

(Under the care of Mr. PEARCE GOULD.)

MRS. T——, aged eighteen, first came under Mr. Gould's care in the out-patient room on Aug. 19th, 1878. She was a robust, healthy-looking young woman, who stated that two years before she struck her right breast against a chair, and three months afterwards noticed a small lump in the breast close to the nipple. She had been married fifteen months, and was confined of her first child in February. "Just a little milk came" in the right breast, but not enough to enable her to suckle with it. There was no pain in it, but as it felt different from the other, and did not secrete milk, she sought advice.

The left breast was well developed, with a good nipple, and secreted freely. The right gland was almost the same size as the left, but was almost completely occupied by a tense, rounded, fluctuating swelling, a little involuted mammary tissue being felt at the lower part; the nipple was flattened out by the swelling; the skin was not reddened, and there was no enlargement of the axillary glands. She was seen again on Aug. 23rd, when the swelling was distinctly larger and "pointing," the contained milk being visible as a white spot in the centre of a red area. A small incision, radiating from the nipple, evacuated about half a pint of creamy fluid, and the sac completely collapsed; a horsehair drain was inserted, and the breast supported by a bandage of cotton-wool. A thick, milky discharge continued to flow from the wound for several weeks, and then gradually became thinner and less, and finally ceased in March, 1879. Extract of belladonna was applied over the breast at first, and later on pressure was employed. The fluid was examined microscopically, and found to be a clear liquid containing colostrum corpuscles, oil globules, and fine granules.

Remarks.—Lacteal cysts are not common. The history and appearance of this case left no room for doubt as to its nature. These cysts have been stated to arise from dilatation of the sinuses or large ducts, or from rupture of a duct and extravasation of milk, in which case they have been found to increase "rapidly and distinctly every time the infant sucks." Here this feature was not noticed, and the history of a previous injury and inability to suckle with the breast render it probable that there was obstruction to one, or perhaps more, of the lacteal ducts. Out of seventeen cases of galactocele recorded by Gross there had been a previous blow in two. It has been stated that such cysts never burst; this one "pointed" most distinctly, and at least threatened to burst.

FULHAM SMALL-POX HOSPITAL.

TWO FATAL CASES OF HÆMORRHAGIC VARIOLA; NECROPSIES.

(Under the care of Mr. R. D. R. SWEETING.)

CASE 1.—Elijah B——, aged twenty-one, a compositor, was admitted on September 18th, at 3.30 P.M. He was then in a weak and exhausted state. He was rational, and stated that he had been attacked with headache and vomiting on Sept. 9th, which ceased on the appearance of the eruption on Sept. 11th. His case was at first pronounced to be "blood-poisoning;" hence the delay in admission.

On examination the surface of the body was found to be covered with a deep-seated confluent eruption, pale and vesicular over the face, but consisting of dark hæmorrhagic pocks over the shoulders, trunk, and extremities. In the latter parts the eruption ran in patches, more or less symmetrical. The tongue was dry and brownish-black; the lips and fauces were black. The conjunctivæ of both eyes were extremely injected. The hands and lips were tremulous; the pulse was soft, highly compressible, 120. Temperature on admission, 103°. During the evening the patient vomited blood several times, which was almost black in colour. Urine also deeply tinged with blood.

On the following morning he was still conscious; answered questions rationally; had slept fairly well. Temperature 101°. There was harsh breathing, especially at the back; deep percussion was impossible. In the evening he was observed to be much more prostrate; pulse 120, feeble and flickering, temperature 103°, respiration hurried, 46. He gradually sank, in spite of stimulating treatment, and died Sept. 20th, at 4.30 A.M.

Necropsy, thirty-two hours after death.—Body badly nourished, covered with petechiæ and pocks, most abundant on inner and back aspect of arms. The left lung was emphysematous at the edges, the right was emphysematous anteriorly, and presented areas of basic consolidation. The right side of the heart was empty and flaccid, the left side semi-contracted; the valves were normal. The liver was large (weight sixty-eight ounces), and presented greenish-blue discolorations at edges. Spleen normal in size, but engorged. Stomach intensely congested, and presenting numerous small hæmorrhages in the mucous membrane, and large rugæ extending through its length. Kidneys: Pelves of both organs the sites of extensive hæmorrhages, being blocked up with dark clots. Ureters: Mucous membrane dark purple in colour, most marked at the upper and lower thirds, the middle portion being fairly normal. Bladder: Mucous membrane slightly congested, presenting a purple arborescent appearance in several parts.

CASE 2.—Grace D——, aged twenty-six, a domestic servant, was admitted Sept. 27th, at 5 P.M. She stated that she had been seized with shivering and headache on Sept. 20th, and felt languid and "out of sorts." On Sept. 24th the eruption appeared, being noticed first on the hands, and on the morning of admission she suffered from vomiting and diarrhœa.

On examination she was found to be the subject of an extensive and varying eruption. Numerous red raised and rough papules were noticed on the arms, wrists, and soles of feet, *but none on face or forehead.* The regions of these papules were red, indurated, and hot. Besides these there were several reddish-blue spots on forehead, and similar large symmetrical patches covering both sides of lower half of abdomen, and extending down to groins and upper third of thighs. There were also a few dark-purple spots on anterior aspect of legs. This rash was at first thought to be purpura, but from the analogy of the further development of the eruption in other parts, and the fact that it was exceedingly sparse on the legs, the usual site of purpura, the idea was dismissed.

During the evening the patient retched a great deal and vomited once, the egesta being dark and viscid. Temperature 104°; pulse 120. Port wine (four ounces) and iced soda-water and milk ordered.

On the following day the tongue was moist and dark, and there were small blebs of serum on the lips. Pulse quick, soft, and compressible, 120; temperature 102·6°. There had been some slight vaginal hæmorrhage, which patient ascribed to the premature appearance of the menses. There was still occasional retching. Evening temperature 104°. Five-grain doses of sulphate of quinine were ordered.

On the 29th the temperature in the morning was 101°; pulse 110. The vaginal hæmorrhage continued, and was more copious. Some hæmaturia was also noticed. The urine was albuminous (one-sixth). Fifteen grains of gallic acid were given every four hours.

The papules on the arms and wrists were becoming hæmorrhagic pocks. A few pocks filled with dark blood were also visible on the forehead and shoulders. The symmetrical patches on the abdomen and thighs remained the same. Evening temperature 100°; pulse 100. Patient felt sick, but had not vomited. As the hæmorrhage continued, the vagina and uterus were well syringed, first, with luke-

warm water, and then with a warm solution of perchloride of iron. The woman became restless and sleepless at midnight. A scruple of chloral hydrate was given. She slept four hours after the draught of chloral, but next morning seemed greatly prostrated and inclined to coma, and swallowing was difficult. The vaginal hæmorrhage had ceased, but there was still slight hæmaturia. The eruption on the forehead now consisted of a large blended extravasation rather than a collection of pocks, and the papules at first observed on the arms and wrists had all become vesicles, containing blood of a colour almost black. The patches on the abdomen and thighs remained as such, being, however, darker, as also were the few spots on the legs. Temperature 99°; pulse 160, very soft. A pint of champagne was given with the hope of rousing the patient, but she rapidly succumbed, and died at 6.30 P.M.

Necropsy forty-six hours after death.—Body well nourished; surface discoloured, and presenting numerous hæmorrhagic pocks and petechiæ, the latter abundant over abdomen. The edges and upper lobes of both lungs were emphysematous, the lower lobes engorged with blood; no consolidation. The pericardial sac contained half an ounce of bloody serum. The heart-substance was pale in colour; valves healthy; the right cavities were flaccid and empty; the left side was semi-contracted, and contained soft diffluent clot. The spleen was soft and congested; liver normal; stomach greatly dilated; mucous membrane congested; lower part and pyloric region intersected with thick and wavy rugæ. The pelves of both kidneys occupied by large extravasations, consisting of firm dark clots; exterior and cortex of each greatly congested; capsules readily separable, and presenting hæmorrhages in their substance. The commencement of each ureter was blocked up for an inch with a large firm thrombus, greatly increasing the lumen of the tube; the upper half of the mucous membrane of ureter was congested. In addition, there was observed laceration and partial rupture of kidney-substance at the lower part of the hilum below the ureter, with accompanying extravasation into the tissues around the organ. The bladder presented points of congested mucous membrane most marked at the neck. Mucous membrane of the vagina was of a dark purple colour. The cavity of the uterus was occupied by a reddish-brown clot; mucous membrane of fundus presented several points of hæmorrhage. The left ovary was deeply congested; right also congested and filled with corpora lutea; ovarian veins were distended and prominent. The broad ligament and mucous membrane of Fallopian tubes were of a port-wine colour.

Remarks.—Neither of the above patients possessed thoroughly protective vaccination marks, those of Case 1 being "third class," and those of Case 2 "second class." In order to explain this terminology, which is in use under the Metropolitan Asylums Board, "third class" will be held to comprise those cases in which there are one or several cicatrices, making up less than a third of a square inch of badly-foveated surface, or of surface without foveation; and "second class" will include cases in which is found less than a third of a square inch of well-foveated surface, or one-third of a square inch of badly-foveated surface. Thus, the cicatrices in Case 2 were noted as being large, but *puckered* and not truly foveated.

GENERAL INFIRMARY, LEEDS.

CASE OF APHASIA FOLLOWING INJURY TO THE HEAD.

(Under the care of Mr. WHEELHOUSE.)

FOR the following notes we are indebted to Mr. W. H. Brown, house-surgeon.

W. D——, aged twenty-five, a groom, was admitted on October 29th, 1879. The history of the case being that whilst he was engaged in removing a stone from a horse's foot the horse struck out and kicked him on the left side of the head. On admission he was absolutely unconscious, the pulse was slow (56), and the pupils were contracted, and respiration about 24. There was a soft elastic swelling over the left parietal bone just in front of the ear, and through this swelling the bone appeared to be depressed. There was also considerable effusion beneath the frontal portion of the occipito-frontalis muscle. About one hour after admission he became very restless, but remained quiet on being ordered to do so. He then appeared to have regained possession of all his faculties save that of speech, for he was able to move his arms and legs according to directions and to count figures which were held up to him by holding up a corresponding number on his own hand. About twelve hours after his admission he, for the first time, made an effort to speak, but only succeeded in uttering some incoherent sounds. All symptoms of compression now passed off. In this condition he continued for twenty-four hours, sleeping somewhat heavily at intervals, when suddenly, in answer to a question put to him, he answered "Yes," and to a query put to him as to pain, "No." From this time (thirty-six hours after the accident) he gradually improved, and was able to name objects (such as a watch, keys, &c.), which were shown to him, at first indistinctly, but becoming more correct after one or two attempts. Three weeks after the accident he could converse freely and had fully regained his power of speech. He stated that when he attempted to speak rapidly he at times got confused, but this confusion passed off if he paused for a minute or two.

Rest in bed, low diet, and free purgation was the only treatment.

Remarks.—There appear to be several points of interest in this case. First, its rarity. A similar case is mentioned in Bryant's Surgery, vol. i., page 211. In this case the aphasia lasted once two months, so that the injury was probably much more severe than in the present instance. Secondly, it shows that it is possible to have complete aphasia without any other paralysis. Thirdly, the rapid manner in which the symptoms passed off, leaving the patient practically well. Fourthly, as to prognosis. The case on admission appeared to be most grave, but the manner in which it terminated bears out the late Mr. Callender's opinion that injuries to the right side of the head are more rapidly and more surely fatal than are equal injuries on the left. The aphasia was in all probability due to a concussion of the third left frontal convolution, and may have consisted of minute hæmorrhages which rapidly became absorbed.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Artificial Respiration in New-born Children.

THE ordinary meeting of this Society was held on the 23rd inst., J. E. Erichsen, Esq., F.R.S., President, in the chair. The evening was occupied by the reading of a paper contributed by Dr. Champneys, detailing the results of comparative experiments upon methods of inducing artificial respiration in new-born children, and by the discussion arising out of the paper. Drs. Matthews Duncan, Roper, Powell, and Silvester took part in the debate.

The following is an abstract of the paper, entitled "On Artificial Respiration in New-born Children; the amount of ventilation secured by different methods: an experimental inquiry;" by FRANCIS HENRY CHAMPNEYS, M.B. Oxon., M.R.C.P. The number of bodies experimented on was twenty-six, of which twenty were utilised for this part of the subject; only such as had never breathed being used. Tracheotomy having been performed, a cannula was tied into the trachea, the cannula being connected by an india-rubber tube, with a V tube filled with water, which thus registered inspiration and expiration by the rise and fall of the water, the results in the same body only being compared, and the highest effect being the standard of comparison. The methods used were nine—viz., that of Marshall Hall, Howard, Silvester, Pacini, Bain, Schücking, Schüller, Schroeder, Schultze. The conclusions were the following:—(1) Since the position of equilibrium of a stillborn child's chest is one of absolute expiration, airlessness, or collapse, no method which depends on elastic recoil of the chest-walls will introduce air into its lungs. The methods of Marshall Hall and Howard are useless as means of directly ventilating the lungs of stillborn children. (2) Silvester's method, and its modifications by Pacini and Bain, introduce more air into the lungs than any other method.

(3) In using Silvester's method the arms should be held above the elbows and everted. (4) In using Pacini's or Bain's method the legs should be fixed, the second half of Pacini's method and Bain's second method should not be employed, as the weight of a new-born child's body is insufficient counterpoise to the necessary traction. (5) In using these two latter methods the operator may face the subject, and lift the shoulders from below; by this means he is able to watch the child's countenance, and is able to introduce an equal quantity of air. (6) Schücking's method is no improvement on Silvester's. (7) Schüller's method is useless, and not free from risk. (8) Schroeder's method is useless. (9) Schultze's plan, although its power of ventilation is less than that of Silvester and its modifications, yet acts efficiently. (10) In Schultze's method the diaphragm does descend, though but slightly; its principal action, however, is on the thoracic walls, as in the Silvester group. (11) In Schultze's method it is important that the whole weight should rest (at the end of the inspiratory movement) on the index-fingers in the axillæ, and should not be distributed to the other fingers. (12) The violence of the action of the method of Schultze is not in its favour. (13) Opisthotonos always produced expiration by tension of the anterior body walls, and should be avoided. Behm's experiments, six in number, dealt with children truly stillborn in two cases only (one other having failed). His general conclusions speak highly of Marshall Hall's and Howard's methods, which, however, in the above two cases, were nearly or quite failures. His error is in not appreciating the collapsed state of the thorax in truly stillborn children.—The PRESIDENT invited discussion from those who had had practical experience of these methods. He asked how long after birth was a stillborn child recoverable; and also whether evils do not often attend the more violent measures, such as succussion or slapping, so often adopted.—Dr. MATTHEWS DUNCANS said the paper was one of great value, which would lead to results of cardinal importance in the treatment of the stillborn. Schultze's method appeared too violent, and he felt that it was desirable to induce respiration by as gentle means as possible. The author's remarks upon Howard's and M. Hall's methods showed these methods to be without practical importance or utility. His own experience was that the older methods, which he was taught were of great value, were conducted with objectionable haste and hurry, as well as violence. He remembered a case where the spleen and liver were ruptured by the over-active treatment employed in resuscitation. The method of direct inflation was unsatisfactory, the air being as often passed into the œsophagus and stomach as into the lungs. He was of opinion that Silvester's method was the best. He pointed out that recovery was possible even if the heart had ceased beating for more than a minute. In such cases the heart was often temporarily arrested; so also in stillbirths.—Dr. ROPER urged that the child frequently commenced to breathe spontaneously, even when artificial methods were being employed; e.g., he had seen a child inspire whilst the movement of expiration was being made by Silvester's method. The cessation of the cardiac beat was difficult to make out in breech cases, and he related three cases in which the child was left for dead. One of these occurred in the practice of the late Mr. Brown, of St. Mary Axe; the child was born still in the absence of the medical man; it was taken to the surgery and thence to the late Mr. Solly, who, next day, in dissecting the body, found that the heart was still beating. A second instance was of a fœtus of five months and a half, which was set aside for dead, Dr. Roper attending to the mother, who was suffering from hæmorrhage. He was astonished next day to find that this immature child, which had lain on the floor for eleven hours through a cold night, was breathing, and its heart beating. Again, he once delivered a monster by the forceps; it seemed dead, and was not further attended to, but as he was leaving the room two hours later the child, which had been left aside, began to cry. Such examples showed that the new-born have greater tenacity of life than is supposed.—The PRESIDENT asked whether in the case examined by Mr. Solly the auricles or ventricles were beating.—Dr. ROPER did not know.—The PRESIDENT remarked that in some experiments he had made long ago upon animals he had found the auricles to continue beating long after the ventricular systole had ceased.—Dr. DOUGLAS POWELL asked Mr. Champneys how it happened that in his manometer experiments the mercury often fell to zero or even below it in expiration, seeing that in new-born children the lungs are absolutely collapsed, and once inspiration has taken place they can never be completely emptied again of air. There was no doubt as to the superiority of Silvester's method on theoretical grounds. That the diaphragm was not moved was not of importance; for the condition of the infant, so far as the diaphragm was concerned and the action of Silvester's method, might be compared to the condition of extreme emphysema with a flattened diaphragm, where inspiration is wholly effected by the raising of the thorax. The diaphragm in the infant could not be much drawn up, being fixed somewhat by the remains of the umbilical cord and its peritoneal reflexions. Schultze's method seemed to consist chiefly in force applied to the axillary regions; and he related a case where Silvester's method was being tried to restore breathing in sudden death from inhalation of methylene, and where additional force employed by Mr. Nunn (whose patient it was) in the axilla aided considerably in the entrance of air, as evidenced by the greater force of the inspiratory whiff. He could not see how any elastic recoil of the ribs can be established in young infants. As soon as the lungs become the least aerated, it is impossible for them again to become completely collapsed. There could hardly be any elastic recoil until the ribs had grown, for there must be very slight resiliency in the young infant.—DR. SILVESTER was much indebted to the author for this contribution to the literature of resuscitation. He concurred in Dr. Powell's remark as to the amount of air expired being less than that taken in at the first inspiration. He had drawn up his rules for the sake of the public, giving directions which could be applicable in all circumstances, and to meet the needs of all classes of people. Had he not done so the efforts at resuscitation might, in the hands of the rough and unskilled, have led to injury to the chest, axillary vessels, nerves, &c. Hence his directions that the operator should stand behind the subject, and should raise the arms from the elbows. He preferred himself to take hold of the hands and press the arms on the chest. Before introducing his plan he had tried thirty or forty different ways. He did not think the method used above so applicable to the stillborn as to adults, as the lungs in them do not follow the raising of the ribs. He preferred in their case to directly inflate the lungs by blowing into the mouth, whilst pressing the larynx backwards against the pharynx, and to combine with this procedure that of drawing up the ribs. The readiness with which the infantile muscles and ribs can be injured must be borne in mind. The heart may continue beating as long as artificial respiration is continued, ceasing when this is stopped, and so on for many times, and yet the child not live. So that in many cases of stillbirth he believed that injury to the brain might be present, thus preventing the continuance of respiration after it had been artificially induced.—Dr. CHAMPNEYS said, of course, these experiments were far from settling the question as to which was the best method. Although quite admitting the possibility of spontaneous recovery after stillbirth, yet such instances as Dr. Roper had named were exceptional, and he did not think those who recovered after artificial respiration were to be classed with them. The reason why it was stated in some of his experiments that the mercury fell below zero in the manometer was that *after* the first inspiration and expiration he had altered the reading of the manometer and started afresh, so that if some of the residual air was expired subsequently the reading would be necessarily below this second starting-point. Schultze's method caused a marked *descent* of the diaphragm; but there was no evident rise of it in Silvester's method. The elastic recoil of the ribs is remarkable. In a very few hours after birth a new state of equilibrium is established, and the rib-cartilages have grown to the state of inspiration from that of collapse. He thought it would be of advantage if Dr. Silvester would publish a second set of rules for skilled persons, so that the best system might be carried out by medical men and others. He had made experiments which showed that it was not possible to blow air through the mouth into the trachea without some also passing into the œsophagus; and when the larynx is pressed against the pharynx to prevent the latter occurrence neither trachea nor gullet received air. But the subject of mouth to mouth inflation did not enter into the present paper, which had dealt with only one portion of the subject of artificial respiration.

The Society then adjourned.

MEDICAL SOCIETY OF LONDON.

Hydrocele.—Apoplexy from Embolism.—Acute Hip Disease following Osteitis of Femur.—Accident to a Lithotrite.

AT the meeting on the 22nd inst., Mr. F. J. Gant, President, in the chair—

Mr. FRANCIS MASON exhibited a man, aged forty-nine, now under his care at St. Thomas's Hospital, who had been sent to him by Dr. Price of Margate, with an unusually large hydrocele of the tunica vaginalis. The patient first noticed the swelling fifteen years ago. The hydrocele had been tapped twice—viz., eleven years and again seven years ago. The swelling now measured in the transverse circumference thirty-one inches, and in the antero-posterior direction twenty-six inches.

Dr. DOUGLAS POWELL exhibited the Brain removed from a girl, aged nineteen, who had been under his care at the Brompton Hospital suffering from symptoms of blood contamination from endocarditis, and who died on Sept. 27th, within two hours of an attack of epilepsy. She had suffered from joint pains, but never from an ordinary attack of rheumatic fever; and eighteen months before admission had an attack of inflammation of the right lung. Her health and strength had gradually failed during the past three months, since an attack of severe pain in the left mammary region, which confined her to bed for a few days. On admission on Aug. 2nd she was very anæmic and breathless; there were pain, swelling, and redness of the right ankle; the temperature was 102·8°, and pulse 130. The heart's apex was in the nipple line; action quick, but regular, with increased force. The first sound was prolonged by a high-pitched murmur from the apex round towards the scapula. The disease ran the course of subacute intermitting rheumatism, with a constantly high pulse range (100–120–130), and very trivial joint-trouble. There was no albumen or blood in the urine, but on September 6th the spleen was found to be enlarged, presumably from embolism. The evening temperature was rarely below 100°, at intervals mounting to 101° and 102°, and rarely 103°; the morning temperature being mostly about 99°. For four days previous to the fatal attack on October 27th the temperature had daily ranged between 99° and 103°. She had occasional headache, particularly for a few hours before her apoplectic seizure, but no paralytic symptoms had before this presented themselves. The post-mortem examination revealed vegetation on the mitral valve and recent granulations in the auricle; an appearance as if some vegetation had been detached from the valves, and softening of the chordæ tendineæ. There was embolism of the posterior cerebral artery and red softening of the lobe it supplied, whilst behind the plug the vessel was dilated and ruptured, blood-clot covering the base of the brain and filling the ventricles. The spleen was enlarged, and the seat of two yellowish infarcts; and an old infarct also occurred in the kidney. Dr. Powell remarked that the case illustrated the commonest cause of cerebral hæmorrhage in young people. The possibility of cerebral and other embolism hardly yet entered sufficiently into calculation in estimating the prognosis of valvular heart affections. It was most apt to occur in mitral stenosis. In mitral and aortic regurgitation of rheumatic origin it occurred, he believed, with equal frequency, allowance being made for the relative prevalence of the two diseases. Multiple embolism was, however, a necessary feature of ulcerative endocarditis, of which the present case was an example. Blood contamination shared with the more palpable results of embolism in producing the characteristic febrile symptoms of this disease, and an enlarged spleen was one of the chief confirmatory signs of the affection. He referred to the observations of Mr. Bryant and Dr. Goodhart, in the 28th volume of the Pathological Transactions, as to the effect of embolism in causing aneurismal dilatation of arteries. The difficulty in his case was the rapidity with which the dilatation and softening of vessels must have occurred. The brain symptoms might have been latent, but, on the other hand, it was not known with what rapidity brain matter could soften down.

Mr. BRYANT read a case of Acute Necrosis of the Head, Neck, and upper two-thirds of the Femur, associated with, as a consequence, acute destruction of the hip-joint. It occurred in a female child aged six, who had been admitted into Guy's Hospital under his care with an acute abscess of the part. The abscess had rapidly formed after a fall upon the limb, three months before admission. The child, when admitted, was in a state of high fever and great emaciation. The thigh was much swollen, and the seat of obscure fluctuation. The case was diagnosed as one of acute periostitis or ostitis. A free incision was at once made in the outer part of the limb to relieve tension, and a quantity of dark-coloured blood mixed with pus evacuated. The bone was then found to be fully exposed, and the joint entirely disorganised. The head of the bone was in the acetabulum. Great relief followed the operation. The temperature at once fell, and the child gradually revived. Some months after the limb was again examined and explored. The shaft of the femur, which was found to be dead, was divided below the minor trochanter, and the necrosed head and neck of the bone removed, together with the necrosed epiphysis, which was lying bare in the acetabulum. The lower part of the dead shaft, which formed a sequestrum two and a half inches long, was likewise drawn out of an ensheathing periosteal formation of new bone. The case has gone on well since the operation.—The PRESIDENT agreed that the case was one of primary acute ostitis. He mentioned a case resembling acute hip disease, in which eventually the epiphysis was shed, and the patient recovered with a movable anchylosis. In one case he had excised four inches and a half of the upper end of the femur, being the largest extent of bone ever removed as a consequence of disease proceeding from above downwards.—Mr. OWEN thought there was no doubt the case was one of acute ostitis, and asked what was the condition of the joint at the first examination. Great benefit often followed incisions down to the bone. As to incision or amputation of the hip, he thought that in sickly children life was not long enough for nature to do the work of repair.—Dr. D. POWELL asked as to the frequency of amyloid disease in these cases, which he supposed would influence the question of amputation as against excision.—Mr. WM. ADAMS thought excision of the joint afforded the only chance in these cases, of which pyæmia was a common termination. In the case related the disease clearly extended from the shaft to the joint.—Mr. ROYES BELL mentioned a case of necrosis of tibia followed by abscess in the knee-joint, and implication of the ankle. The knee-joint was opened, and complete recovery followed on it; but in the ankle the result was not so fortunate. Had Mr. Bryant performed his operation antiseptically? If the antiseptic treatment be employed, recovery might occur without the drain of pus, and consequent amyloid degeneration.—Mr. PEARCE GOULD pointed out that in the hip-joint a considerable quantity of the diaphysis enters into the joint, unlike the knee, which is only formed by the epiphysis; so that if ostitis occur in the upper end of the femur the joint becomes affected. What was the effect on the bone of separation of the periosteum? He cited a case in which a large proportion of the femur was bared and only a small scale of bone came away.—Mr. BRYANT, in reply, said that after free incision he had passed his finger into the joint, which, together with the adjacent soft parts, had become disorganised. It was not known how long suppuration might last without giving rise to amyloid degeneration, which should not be regarded as contra-indicating surgical interference, as it was known that the amyloid change will disappear, when the cause is removed. He used antiseptic precautions, although he did not employ the spray and gauze, and even though these be used yet in some cases suppuration must occur.

Mr. COULSON read notes of a case of Lithotrity (Bigelow's operation), in which an accident of an unrecorded kind occurred to the lithotrite. The patient was sixty-eight years of age and had suffered from symptoms of calculus for about seven years. The operation was performed on the 11th inst. The meatus urethræ having been previously incised, a large stone about two inches in diameter was caught and crushed with Bigelow's lithotrite. The stone offered much resistance to the instrument, and the fragments separated with a loud crack. Three or four fragments had been successively crushed when it was found that the screw and two pins by which the lithotrite is fastened to the shaft had given way, so that the two portions of the instrument became separated. No means for connecting the handle with the shaft could be extemporised. By percussion, however, upon the handle the blades were freed as much as possible from the débris, and the instrument removed from the bladder, some injury

being inflicted on the neck of the bladder and urethra in its withdrawal. The operation was completed by the fenestrated lithotrite, and fragments weighing 500 grains removed by the tube and aspirator. The operation occupied two hours and ten minutes, a delay of twenty minutes being caused by the accident. No bad symptoms followed, and this was attributed to the complete removal of the fragments having been effected. Mr. Coulson remarked on the enormous power of the blades of the instrument, and the inadequate resistance to the force applied by the screw, due to the imperfect manner in which the handle is connected with the shaft.—Mr. WORDSWORTH asked if it was the custom to crush such large uric acid stones?—Mr. COULSON would employ crushing in preference to lithotomy for any stone that could be grasped by a lithotrite, provided no fragments are left behind.

OBSTETRICAL SOCIETY OF LONDON.

Pyometra.—Hydrocephalus.—Anencephalous Monster.—Maternal Impressions.—Chorea in Pregnancy.—Absence of the Vagina.—Congenital Abnormality of the Uterus.

AT the meeting of this Society, on November 3rd, 1880, Dr. W. S. Playfair, President, in the chair—

Dr. GALABIN showed Microscopic Sections from a case of Pyometra in a woman, aged seventy, who died after an operation for hernia. The uterus was distended into a cavity three inches in diameter, full of pus, the cervical canal being free. The naked-eye appearance was that of inflammation only, but the microscopic sections revealed the presence of carcinoma. In the specimen of pyometra shown last year by Dr. Matthews Duncan, where the case had run an apparently malignant course, and the wall of the uterus had ulcerated through, but in which Dr. Thin had reported only infiltration by pus-cells, he had been permitted to make a microscopic examination. He believed that in that case also there was new growth, and not inflammation only.

Dr. MATTHEWS DUNCAN showed a Child, born Hydrocephalic, with only stumps of arms, and with deformity of both lower limbs. The right stump of arm was one inch and three-quarters, the left two inches and three-quarters long. The femora were short, flexed, rotated outwards, and adducted, so that the knees were within half an inch of the anterior superior iliac spines. The mother attributed the condition of the child to a fright in seeing a dog run over, three months before delivery, and to her seeing the dog afterwards frequently in a deformed state. Four months before delivery she had a fall on the back.

Dr. CULVER JAMES showed an Anencephalous Monster, in which the upper part, sides, front, and back of the cranium were wanting, as well as the arches of the vertebral column, as low down as the angles of the scapula. The mother was twenty-six years old, and had had four children. There was no history of any fright during pregnancy.

Dr. HEYWOOD SMITH showed, as an instance of Maternal Impressions, photographs of a young woman, aged twenty-eight, whose profile showed a remarkable concavity of the face, ending in a prominent under-jaw. The mother had been frightened by a monkey about the fourth month of gestation. He remarked that among animals it was at the moment of conception that the mother was supposed to receive an impression, while in women a maternal impression was often referred to the third or fourth month.—Dr. BRAITHWAITE said that he had seen a puppy having a bifid and flattened forefoot, the owner of which said that during the mother's pregnancy a stone had fallen upon the foot and crushed it similarly to the flattened foot described.

Dr. JOHN WILLIAMS and Dr. GALABIN brought forward their report on Dr. Godson's specimens of Ruptured Tubal Fœtation. Chorionic villi were discovered. The clot lay in close contact with the muscular wall of the tube, without any layer of decidual cells. The apparent amnial cavity was only three-eighths of an inch in length, and it was thought that the embryo could not have reached more than about three weeks' development. There was no corpus luteum, but only a cyst three-eighths of an inch long, containing a shrunken clot, in the ovary.

Dr. WADE related a case of Chorea in Pregnancy, treated by Dilatation of the Cervix Uteri. An unmarried primipara, aged nineteen, nearly seven months pregnant, suffered from very severe chorea, which had commenced in a very slight form three weeks before admission. A faint apex systolic bruit, probably due to rheumatic fever two years previously, existed. An attempt was made to dilate the os with the finger, but owing to the incessant and violent movements of the patient the success was very partial, and there was, if anything, an exacerbation of the symptoms. Three days after, under chloroform, the dilatation was completely effected; this was followed during the day by very marked amendment, and a sound night's sleep—the first she had had since admission, and every succeeding night was equally good. On the third day after, the movements became worse than they had been on the two preceding days, dilatation was again effected on the fourth day, under chloroform. From this time steady, rapid, and unintermittent recovery took place. A very slight occasional twitching of the fingers of the right hand continued until delivery at term of a healthy child, when they entirely ceased.—Dr. ROUTH asked to what extent the os had been forcibly dilated. Was it in any way lacerated?—Dr. MATTHEWS DUNCAN also complained of the want of exact information as to what was meant by full dilatation. He regarded thorough dilatation, as he understood it, as a very sure cause of miscarriage.—Dr. AVELING had seen reflex vomiting from abrasion of the cervix uteri cured by the application of a solution of nitrate of silver, and thought medication should be first tried before dilatation.—Dr. FRANCIS TAYLER related the case of a boy suffering from severe chorea, who was taken to Guy's, where he remained in the taking-in room for some time. He was not admitted, but on his return home the choreic movements were found to have ceased, and did not recur. So sudden a recovery seemed inconsistent with so coarse a lesion as embolism, and the case also showed the need of caution in drawing conclusions as to therapeutics.

Dr. C. H. CARTER related a case of "Absence of the Vagina; uterus distended by retained menstrual fluid; operation; recovery." The patient, aged sixteen, had never menstruated. Pain had begun two years previously, and recurred almost daily. The urethral orifice was found large, the vagina absent. By rectal examination the finger felt the sound in the bladder with only a thin layer of tissue intervening. About one and a half to two inches up the rectum a rounded elastic mass was felt, reaching up half way to the umbilicus, about the size of the uterus at the third or fourth month of pregnancy. On July 25th the operation was performed for making an artificial vagina. After slight longitudinal and lateral incisions, the passage was chiefly torn by finger and director. Nothing like os or cervix uteri could be detected. The uterus was first punctured with the aspirator, and the opening then enlarged with a bistoury. About ten ounces of treacly matter escaped; several ounces of treacly fluid were afterwards expelled, and the same evening the dressings were soaked with fresh blood. The next day syringing out the uterus with carbolic lotion (1 in 80) was commenced. For about ten days there was some elevation of temperature, and a rapid pulse, 112 to 130, but the disturbance then passed off. When the patient went out on Oct. 11th the new vagina had narrowed a good deal, and only admitted the finger for about three-quarters of an inch. Thick sounds were passed occasionally to keep open the passage into the uterus, and menstruation took place regularly after the operation. In October of the following year an examination was made, and it was found that the ordinary sound could not be passed into the uterus, but a small-pointed sound could be passed into it three inches and a half. The author expressed to the mother his opinion that marriage was inadmissible, since delivery could not take place *per vias naturales*.—Dr. GALABIN'S experience was, that the difficulty of keeping an artificial vagina in a condition fit for married life and parturition was considerable. He had had a similar case, in which also no trace of os or cervix could be detected. An artificial vagina was successfully made, and the patient afterwards menstruated naturally; but the attempt to keep the passage of full size was defeated by the fact that the pressure of the dilator repeatedly caused an opening into the bladder, though without producing any continued incontinence of urine.—Dr. ROUTH said that in his own case the patient had not died from the operation, but from the rupture of another cyst. He believed that in most of these cases the vagina had originally existed, but became subsequently adherent. He thought so in his own case, from the case with which he tore it open. He thought that the passage could be kept dilated by using

sponge-tents, and subsequently Sim's dilators. The dilators should not be too large, and should not be worn more than a few hours at a time; they then would not cause inflammation. He mentioned a case in which Mr. Baker Brown had made a good artificial vagina, and the girl subsequently went upon the town, and consorted with Life Guardsmen.—Dr. BRAITHWAITE said there were two classes of cases of atresia, one being incomplete, a fistulous track existing. From the presence of mucous membrane in this contraction was less likely. When the atresia was complete he thought that mucous membrane might be transplanted from the vulva or from an animal, to prevent the tendency to contraction. In a difficult case, the urethra might be dilated and the finger kept in the bladder, and the thumb in the rectum, during the operation.—Dr. GODSON said that he had that morning seen a young woman for whom he had reluctantly made an artificial vagina two months since. There was no retention of menses, but she had married in ignorance of her deformity. Though a fortnight ago there was a capacious canal, it would now barely admit a penholder. He believed that such failure was inevitable, and would not again operate unless there were retained menstrual discharge.—Dr. AVELING thought that Dr. Carter was quite right in dissuading his patient from marriage. He did not agree with Dr. Routh that the majority of cases of absence of vagina were due to inflammatory adhesion. In the three cases he had seen it was evidently congenital, as the uterus was also absent, though the ovaries were present.—Dr. CARTER, in reply, said that Dr. Emmet stated that the tendency to close depended upon the passage being made by cutting rather than by tearing. He did not think that the tendency to contract depended altogether upon the absence of mucous membrane, but rather upon the contractility of the tissues, since in his case a mucous membrane like that of the labia minora was noted in the new passage. He agreed with Dr. Galabin that it was better to defer washing out the uterine cavity a short time. He did not recommend marriage in his case, because the end of the new vagina was closely attached to the margins of the opening into the uterus. No natural dilatation of this opening could occur in labour, and Cæsarean section would probably be necessary.

Dr. BRAXTON HICKS related a case of Congenital Abnormality of Uterus simulating Retention of Menses. The patient, aged twenty-four, had never menstruated. About twelve weeks ago she had severe pain in the right hypochondrium, lasting about six weeks. About the same time she noticed an increasing swelling in the lower abdomen, and recently tension had become severe. On admission a tumour was felt reaching above the umbilicus, tense and semi-fluctuating, causing distress and œdema of the legs. She had not distinctly suffered from monthly increase of distress. The vagina was nearly of normal length, ending in a kind of transverse depression, beyond which was felt the tumour, exactly resembling the uterus distended with menses. The author had had such a case, apparently exactly similar, the very extremity of the vagina and os uteri being closed. The patient was therefore placed under chloroform and a trocar plunged in, where a depression like a dilated os beyond the closure could be felt. Nothing but a little bloody serum flowed. The sound was then passed up into the centre of what seemed to be the uterus, but still no sign of menstrual fluid. Further interference was then abandoned, the tapping having been done antiseptically. In the night she became feverish, and died about thirty hours after the tapping. Post-mortem examination showed that there were neither uterus nor ovaries, but a large cyst attached to the upper end of the vagina; walls very irregular within, smooth without. It was half filled with a cheesy white matter, and the rest with dark grumous material. The wall above was thinned and perforated in two or three places, where the contents, in a fetid condition, had escaped into the peritoneal cavity. The trocar had passed through two layers of peritoneum. Probably the operation had only hastened the rupture.—A report by Dr. GALABIN on the Microscopic Structure of the Cyst was appended. The outer wall of fibrous tissue was only about one-twelfth of an inch thick. The soft material within was made up of round cells, longer than leucocytes, having a fibrillar reticulum amongst them. It was to be regarded as a soft sarcomatous growth.—Dr. ROUTH said that the practical point which came out was, that in another case the aspirator should be used to see the nature of the fluid, if any, before a trocar was employed.

MEDICAL OFFICERS OF HEALTH SOCIETY.

AT a meeting of this Society, held at 1, Adam-street, Adelphi, on Friday, November 19th (the President, Dr. John Syer Bristowe, in the chair), a paper was read "On the Action of Disinfectants on Sewage and the Living Organisms contained therein," by JOHN TRIPE, M.D. Dr. Tripe began by explaining that in this paper he used the term disinfectant in the popular sense, and that the object of the paper was to enable health officers and others to judge of the relative powers of the popular disinfectants. The first set of experiments were made in the spring of the present year by adding 2 per cent. of the disinfectant employed to 4000 grains of offensive sewage teeming with bacteriod and infusorial life. In the second set, which were not commenced until nearly the latter end of October, the same quantity was employed, but one drachm of fresh beef, finely shred, was put into each 4000 grains of sewage, and taken out at the end of three days. In the third set, which was begun about three weeks since, unmixed sewage only was employed. The disinfectants used were those ordinarily sold, as by that means they could be more fairly compared than if the same weight or volume of the solid or other substances from which they were made had been taken. The second set of experiments were made by the addition at first of 1-400th part of the disinfectant, and when it was found that this amount did not remove the offensive smell or destroy the living organisms, additional quantities were added until the proportion of one of the disinfectants to 100 of sewage was reached, this being the strongest mixture likely to be found in drains or sewers when disinfected. As a result of the effect of heat on sewage, infusoria became more lively as the sewage warmed, but at 90° F. their movements became slower, at 95° several ceased to move, at 110° all had died. The bacteria were not affected until 115° F. was reached, when the bacilli and vibrios became sluggish. At 125° all these had ceased to move; at 130° the smaller bacteria were sluggish, and at 140° had ceased to move. On the fourth day a very few of the smaller bacteria were seen to be active, but none of the bacilli, vibrios, or spirilla. The chemical disinfectants used were carbolic acid (No. 5), Burnett's fluid chlorine water (P.B.), solution of chlorinated lime (P.B.), euchlorine, sporokton, hydrochloric acid, chloralum, sanitas, Condy's fluid; sanitas and carbolic acid powder were also experimented on. The first seven were used in the first set of experiments, whilst chloralum, sanitas, and Condy's fluid were selected instead of chlorine and chlorinated lime solutions. The experiments were made at different times, but each set carried out simultaneously, and therefore comparable. Carbolic acid No. 5: When mixed in the proportion of 2 per cent. all smell was removed and all living organisms destroyed. As long as twenty-one days afterwards there was no return of smell or bacterial life. When ten parts of carbolic acid were added to a mixture of sewage and beef, the infusoria but not the bacteria were destroyed and the smell removed. With Burnett's fluid, mixed in the proportion of 2 per cent., the same result followed as in carbolic acid. In the other proportion the effect was less marked. Euchlorine, when added to sewage in the proportion of 2 per cent., removed offensive smell and destroyed infusoria. In the second set of experiments with the sewage and beef solution a mixture of 10 parts to 4000 had but little effect. With sporokton, added in the proportion of 2 per cent., no living organism was detected. In the second experiment the smell was but little altered by a strength of 10 parts in 4000 of the sewage and beef mixture; but when the sporokton was increased in strength to one in 300 the infusoria died, but the bacteria were as active as ever. Solution of chlorine (P.B.) and solution of chlorinated lime (P.B.) did not appear to have much action. Chloralum, when added in the proportion of 10 to 4000, did not immediately affect the smell; but on the second day there were fewer living organisms than in any other solution, except in those of carbolic and hydrochloric acid, and Burnett's fluid. Condy's fluid, when added in the proportion of twenty parts in 4000 completely failed to remove smell or destroy infusoria. In the proportion of one in 50 the offensive smell was removed, and the movement of the bacteria termo was stopped. Sanitas: The addition of

ten to 2000 of sewage and beef produced but little alteration in the smell. With one per cent. of sanitas the smell was much abated, but the living organisms were more abundant than even in the Condy's fluid of the same strength. Sanitas powder was more energetic in its action than sanitas fluid.

In the discussion which followed, Dr. Buchanan Baxter, Dr. Buchanan, Dr. Alfred Carpenter, and Mr. Wynter Blyth took part.

Reviews and Notices of Books.

The Practitioner's Handbook of Treatment. By J. MILNER FOTHERGILL, M.D. Second Edition. London: Macmillan and Co. 1880.

IT is not so very long since Dr. Fothergill published the results of many years' thought in a book which he rightly conjectured was much needed at the present day. The attempt to write a treatise upon therapeutics, not in the stereotyped fashion of taking drug by drug and retailing its properties, with an occasional hint at the value of combinations, but in a manner which should deal, firstly, with the conditions to which treatment is to be directed, and which should endeavour to give a rational and scientific explanation of measures often empirical and traditional, was one which deserved success. The speedy appearance of the second edition of this handbook is also to be accounted for by the fact of the clearness of the writer's style, the confidence with which he states his facts, and the general need felt nowadays for some sure basis of therapeutics. It would be impossible, of course, even for the author of this book to attempt to explain the *modus operandi* of all our therapeutic measures. Our knowledge of the physiological action of drugs is yet far from complete; and it is not always possible to predicate their action in diseased conditions from their known properties on the healthy subject. It is satisfactory, however, to be enabled to follow, so far as we can, a line of treatment which is based upon rational grounds; and, in aiding the practitioner to feel this additional satisfaction, Dr. Fothergill is to be commended.

There is no need for us to take our readers through this book. On its first appearance we indicated its scope, and the manner in which the various subjects were treated. The author has submitted it to careful revision, and made some necessary additions, availing himself frequently of the written experience of others on certain special points. The chapter upon "Medical Men at the Bedside," which closes the work, contains the thoughtful remarks of Dr. Austin Flint in his "Clinical Medicine"; upon hygiene in India Sir James Fayrer contributes a few pages, and so on. But the volume contains much that is original and suggestive, and beyond a few eccentricities in styles, is readable and interesting. We could have wished, however, that such eminently rational drugs as salicylic acid and jaborandi had received a little more attention than is devoted to them in the brief note appended to the chapter on "Body-heat and Fever"; and a more detailed account of the cold-bath treatment of pyrexia—scientific hydropathy—might have been given. The author also in more than one place cannot conceal his contempt for modern medical education. In fact, there runs through the book a tendency to disparage the prevalent methods, whereby he thinks that too much attention is given to accuracy in diagnosis, and too little to therapeutics and the ordinary details of medical practice. It is an echo of Trousseau's cry—for less science and more art in medicine. We venture to think, however, that the present writer confutes his own argument, for his whole book is an endeavour to raise therapeutics to the position of a science. There are, it may frankly be conceded, many directions in which the present system of medical education might be improved; but that the modern methods of teaching have really resulted in an increased confidence in the measures adopted for the treatment of disease there can be no question; and it is a pity that Dr. Fothergill should have lessened the value of his work by a too partial preference for the old-fashioned methods of education in vogue when he was young.

A Practical Treatise on Tumours of the Mammary Gland, embracing their Histology, Pathology, Diagnosis, and Treatment. By SAMUEL W. GROSS, A.M., M.D., Surgeon to the Philadelphia Hospital, &c. London: H. K. Lewis. 1880.

THE naked-eye characters of the common variety of scirrhus are so distinguishing that its separation from other tumours of the mamma was early and easily made, and its clinical history written before its minute anatomy was known. Many of the other mammary tumours, however, are to the naked eye so closely alike that a rough examination affords no clue to their precise variety and structure, and they have been classified by different authors in various ways, and not with that histological accuracy that is now possible. The pernicious effect of an inappropriate nomenclature has been well exemplified in the confusion that the terms "adenoid," "adenoma," "glandular," and so on, have wrought in the study of non-cancerous growths, and the presence of gland elements has been commonly held sufficient to prove the essential nature of the entire neoplasm. A more illogical conclusion can hardly be arrived at, and in other situations the error would not be made. It is certainly strange that the old terms and classification have continued to be used so long, in spite of the great progress of histological knowledge and the improved classification of tumours in general. Dr. Gross has approached the subject from the modern standpoint, investigated it afresh, and classified mammary tumours according to their minute anatomy, and in harmony with the general classification of neoplasms. We cannot here notice *seriatim* the many interesting facts brought out by Dr. Gross, but must content ourselves with indicating some of the main points in which his views differ from those commonly held in this country. He, first of all, divides solid tumours into those derived from the periglandular connective tissue, which may be either mature—fibroma, lipoma, myxoma, chondroma—or immature, embryonic—sarcoma; and those derived from the secreting elements, and composed of epithelium, which may be typical—adenoma; or atypical—carcinoma. Angeiomata and neuromata form another separate class, and primary cysts form another group by themselves. The mere presence of gland structure in a neoplasm is rightly held not to constitute a glandular tumour, as it is obvious that a growth springing from the periglandular tissue must, at any rate at some period of its life-history, surround and include many acini and ducts. But the term adenoma is applied solely to tumours composed of new developments of gland acini, and, more rarely, ducts, having a likeness more or less close to the mamma of a female advanced in gestation. Thus defined these adenomata are found to be very rare. The changes excited in the acini and ducts of the glands by periglandular growths are fully described; they are irritative hyperplasia of the lining epithelium, dilatation by centrifugal growth of the tumour into slits, fissures, or cysts, into which the true tumour tissue fungates. The intra-cystic growths of these formations, then, although found within dilated ducts or acini, are not accurately described as papillary, or other outgrowths from them, but are masses of the periacinous tissue bulging into and dilating the gland spaces. These views, we think, will meet with general adoption, as more in accord with our present knowledge than others for-

merly promulgated. Investigation of cancers has led Dr. *Gross* to hold that they spring from the pre-existing glandular epithelium, and that their extension is not by any spermatic influence, but by the multiplication of already cancerous cells. We are unable to follow Dr. Gross in one of the distinctions he draws between adenoma and carcinoma; he states that in adenomata the epithelial collections are contained in cavities lined by a membrana propria of endothelium, while the cell masses of a cancer are in connective tissue spaces without any such lining. Even were it certain that there is such an "endothelium" beneath the glandular epithelium, it is undoubted that cancer spreads along lymph channels, and that its masses of cells are thus liable to be surrounded by a true lymphatic endothelium. The part of the work that deals with the clinical features of the different classes of tumours is well done and very valuable, although a little too much importance is given to the percentage frequency of various occurrences. The work opportunely supplies a real want, and is the result of accurate work, and we heartily recommend it to our readers as well worthy of careful study.

NAVAL MEDICAL SERVICE.

NEARLY a year has gone by since higher rates of pay were secured to the Army Medical Service, and more than half a year ago the Admiralty Committee closed its doors, being replete with such evidence as it required; but as yet its labours have yielded no fruit, the utmost secrecy being maintained. It is safe to say that discontent pervades the Service, from the lower stratum, where men of some standing find themselves associated with those whose competitive marks are too low for publication, up to those who have reached inspectorial rank, the general question being, When is an end to be put to this state of uncertainty? Credulity is put to the test on being semi-officially told that it rests solely with the Treasury, which, it is thereby intimated, is unwilling to pay the medical officers of the navy on the same scale as that enjoyed by the army.

Deeming that as experts in professional matters we may strengthen the position of the Admiralty *in re nautica medicâ*, we offer with respect what we assume to be just and due requirements. We know well that our naval brethren regard as their right the shorter periods—in ratio of four to five—for increase of full pay, &c., given to them over the army service, by Order in Council of July 6th, 1866, to compensate their compulsory loss of time on half-pay; and we conceive that to be justly their due until half-pay is abolished. The difference thus established, existing till the issue of the last Army Warrant, was over 7 per cent. of full-pay in favour of the navy, taking the whole career of medical service in executive rank, if unpromoted, to cover thirty years. We claim the renewal of this principle of action in the forthcoming Warrant, and offer for consideration a scheme by which this may be effected.

Adhering to the same amount of increase as in the army, of 2*s.* 6*d.* a day, but shifting the period for that increase in accordance with the principle of 4 years in the navy against five in the army service, it necessarily follows that the army maximum of 27*s.* 6*d.* will be attained with fewer years of full-pay service in the navy than in the army, necessitating a further advance of pay to 30*s.* On the other hand, the age of the naval officer will be co-equal, and thus it will always be easier to complete 30 years' service earlier in the army than in the navy. In fact, in the latter few will exceed 25 years in executive ranks, but the inducement of higher rate of pay will stand good. The War Office is actuated by the idea of facilitating early retirement, while the Admiralty is not thus inclined, and its views may find support in an increase of pay at ten years' service—the earliest retiring point with gratuity for the army. At 20 years there lies the point long sought for voluntary retirement by naval surgeons, whom the Admiralty do not wish to lose, but can only retain by inducements. We submit as such the fixture of terms for increase of full and retired pay not at, but beyond, that period, after 22 years' service; but the right to retire after 20 years must be assured.

Proposal for full-pay of executive ranks.

Navy, full-pay.						Averages for 10 year term, in round numbers.	
						Navy.	Army.
Years of service.	Term.	Per diem.	Per annum.	Totals for term.	Totals for 10 years.	Proposed.	Actual.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£	£
1st term: – to 4	4	0 11 0	200 15 0	803 0 0	2362 0 0	236	225
1st term: 4 „ 8	4	0 12 6	228 12 6	912 10 0			
1st term: 8 „ 10	2	0 15 0	273 15 0	547 10 0			
2nd term: 10 „ 12	2	0 17 6	319 7 6	638 15 0	3823 15 0	382	360
2nd term: 12 „ 14	2	1 0 0	365 0 0	730 0 0			
2nd term: 14 „ 18	4	1 2 6	410 12 6	1642 10 0			
2nd term: 18 „ 20	2	1 5 0	456 5 0	912 10 0			
3rd term: 20 „ 22	2	1 5 0	456 5 0	912 10 0	5155 12 6	515	479
3rd term: 22 „ 25	3	1 7 6	501 17 6	1505 12 6			
3rd term: 25 „ 30	5	1 10 0	547 10 0	2737 10 0			
Total full-pay, 30 years					11341 7 6	378	357

N.B.—Under the Order in Council, July 6th, 1866, the difference of full-pay of the executive ranks stood at 7½ per cent. in favour of the navy. By this proposed scale the same would be below 7 per cent. for the full period of service.

Our advocacy herein is limited to the rank and file of the Service. The question of raising an equivalent to the rank and immunities of brigade surgeons in the army, and the social question of cabin accommodation, are matters which, though important, we do not discuss in this article.

BRITISH MEDICAL ASSOCIATION.—The meeting of the British Medical Association for the year 1881 will be held at Ryde, in the Isle of Wight, to which locality the Association has received a cordial invitation from nearly the whole of the medical profession in the island. Mr. Benjamin Barrow has been appointed president-elect. The council of the town of Ryde have passed a resolution that the whole of the corporation buildings, which are numerous and spacious, shall be placed at the disposal of the reception committee. The address in Medicine will be given by Dr. John Syer Bristowe, London, of St. Thomas's Hospital; the address in Surgery by Mr. William Dalla Husband, of Bournemouth, consulting surgeon to the York County Hospital; and an address in Obstetric Medicine by Dr. John G. Sinclair Coghill, of Ventnor. The following grants in aid of scientific investigation for the year were made, viz., Dr. McKendrick and Committee, Glasgow, for a continued investigation on anæsthetics, £25; Dr. Gerald Yeo, London, on the efficacy of the antiseptic method in injuries of the brain, £50; Dr. Thin, London, for a continued investigation on parasitic skin diseases, £25; Mr. W. North, London, for a continued investigation on the relations which exist between nitrogenous egesta and muscular work, £50; Dr. J. Hamilton, Edinburgh, an investigation on the pathology of the brain, £30; Mr. Watson Cheyne, London, an investigation on the relation of organisms to septic diseases, £25; Dr. Augustus Waller, London, an investigation on the time and relations of muscular contractions in the human body in health and disease, £20; Dr. Alexander Ogston, Aberdeen, a continued investigation on the relation between bacteria and surgical disease, £10; Dr. Newman, Glasgow, a renewed grant in aid of an investigation on the functions of the kidney, £10; Drs. Braidwood and Vacher, Birkenhead, to illustrate the third and final report on the life history of contagium, £20.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 27, 1880.

THE relation between medicine and pharmacy formed the subject of a joint discussion between chemists and doctors in some meetings which have been held in the Philadelphia College of Pharmacy, with the object of improving the relations between the two classes. The discussions, which have been summarised in an article in the *Pharmaceutical Journal*, deal with many points which are of equal interest on this side of the Atlantic. If we are to judge from the tone of the speakers, they have a better chance of settlement in America than in this country, although it is always difficult to know how far statements made on such an occasion are really representative. The subject of patent medicines was first discussed. Dr. SWAYZE deprecated their use, and urged pharmacists to abandon and discourage their sale, and a resolution was passed to ascertain how far the proposal would be agreeable to the dealers in drugs who are directly concerned. We fear, however, that the proposal is impracticable. The public requires educating as much as the chemists; as long as patent medicines are demanded patent medicines will be prepared, and pharmacists will have no choice but either to lose custom or to act as distributors. The *American Journal of Pharmacy*, however, approves the movement, and suggests the desirability of discarding all signs and circulars recommending patent medicines, and in this we thoroughly concur. Druggists, by the way in which they lend themselves to the advertisement of quack medicines, aid considerably in their diffusion. In order to save a few pence in paper, many of them will distribute advertisements of patent medicines by using them as wrappers, a practice which is strongly to be deprecated. The American journal goes farther, and urges medical men to discard the use of "specialities" which are not patent medicines, and the constituents of which are known. Here, however, we are on different ground. There is no doubt that of late years such specialities have been prescribed by physicians much more than formerly. These preparations have come to us largely from the other side of the Atlantic, and it is difficult to class them all together, and, with our contemporary, to draw no distinction between them and patent medicines. It is not surprising that they are looked upon with some disfavour by pharmacists, since the profits derived from their sale must be very much less than those obtained upon medicines dispensed from an ordinary prescription.

An occasional relation between medical men and chemists, which was passed over by the Conference as "an evil difficult to reach," should certainly be condemned in the strongest terms. We refer to the arrangement for "mutual advantage sometimes made between physicians and pharmacists," by which we understand an allusion to the system of a percentage return to the prescriber on the price of medicines dispensed. It is idle to affect to ignore that such an arrangement is occasionally made even in this country, but to one of the parties to the compact, the physician, it is simply disgraceful. To obtain out of the pockets of his patients an addition to his fees unknown to them is a dishonest procedure. Unfortunately the practice is not confined to chemists. Not long ago we saw a circular sent out to the profession by a manufacturer of apparatus used in sickness, openly offering to return to the recommender a percentage on the price charged for apparatus supplied to his patients. It is rumoured that there are surgeons who are not ashamed to accept a similar percentage from the makers of orthopædic and other instruments. Such procedures are discreditable enough to the tradesmen concerned (if they do not indeed deserve a less honourable name). What is it, then, to those who profess to belong to a "liberal profession"? In the case of dispensing chemists, it is notorious that to facilitate such an arrangement is the real object of the private lists of formulæ, to be prescribed by the numbers they bear, which have been issued by some firms of chemists reputed to be respectable. Against everything which indicates such a system, medical men who value the reputation of their profession for honesty, much less for honour, should resolutely set their faces, by refusing to give any countenance to the tradesmen who are willing to adopt the system, and they should take care that the tradesmen implicated are aware of the fact.

Another topic which was considered at the Conference is a sore subject with our profession in all countries—that of counter-prescribing. The practice has been often condemned in these columns, and we need say little more in deprecation of a custom which, under legal toleration, has flooded the country with practitioners destitute of any medical education, unqualified, and practically irresponsible, who for the sake of a small profit, in every town in England, deprive the medical practitioners of one-half the work which should legitimately come to them, and occasionally furnish the practitioner with some of his most difficult tasks. The discussion was not conducted without bitterness, and ended in the passage of a resolution which was probably intended rather as a salve to the medical men present than as having any practical value:—"That as the diagnosis and treatment of disease belong to the province of a distinct profession, and as a pharmaceutical education does not qualify the pharmacist for these responsible offices, he should, where it is practicable, refer applicants for medical aid to a regular physician." The chemists who took part in the discussion denied that the strictures expressed applied to them, and quibbled over the difficulty of defining exactly what is to be understood by "prescribing over the counter," and of deciding how far the pharmacist is justified in expressing an opinion as to the choice of simple remedies. A definition could readily be obtained from the Council of the Pharmaceutical Society, or if any member of the Conference were to spend half an hour one Saturday evening in almost any chemist's shop, in London or out of it, he would scarcely fail to be able to frame a definition of counter-prescribing at least twenty times over. A trade journal positively has a section—the "Counter Prescriber"—to put the druggists "up to" the drugs to give for such and such symptoms. Counter-prescribing is not only a system which is injurious alike to patients and medical men, but it is one that bears

the impress of ingratitude to the medical profession. The changes in the mode of medical practice, the extensive adoption of the system of prescriptions, instead of supplying physic, have put an enormous amount of business into the hands of Pharmacy. We would suggest that medical men should resolve to discountenance all chemists who are known to cultivate counter-prescribing, and to encourage by their help those (if any such are to be found) who avoid it altogether.

Much discussion was devoted to the subject of the unauthorised repetition of prescriptions. It was maintained that a physician does not sell his prescription, but merely his advice, and that he suffers a pecuniary loss by the unauthorised and unlimited repetition of the medicine. The question is one of great difficulty. It may be held that the prescription is really part of the advice, to which the patient has a permanent claim, and however inconvenient such a claim may sometimes be, its practical disputation is scarcely possible. It has been proposed to mark on all prescriptions that they are not to be repeated without authority, but the public would certainly rebel, and successfully, for they would find not unwilling allies in the dispensers. This and the other subjects have been often before discussed, but not often in verbal conference. We wish that we could see in the attempt which has been made at Philadelphia more promise of ultimate benefit from such joint consideration of questions of mutual importance.

THE attack on the position held by anatomy in the education of the medical student, which was made by Professor MICHAEL FOSTER in his address to the British Medical Association at Cambridge in August last, could scarcely be expected to be passed over by anatomists without protest or reply. The conclusions which the Cambridge Professor put before his audience have called forth a spirited answer from Professor TURNER in the address at the opening of the new Anatomical Buildings of the University of Edinburgh which we have recently published. The attack and the defence are alike worthy of the writers and of the cause at issue, and will be earnestly and carefully studied by those who have the direction of medical education in this country. The ideas thus brought into contrast will also have great interest for both students and practitioners, for the predominance of the one or the other view will determine the education of the medical man of the near future. Professor FOSTER, in urging that anatomy is mainly of benefit as a discipline, seriously undervalues its practical utility by appealing to the ease with which anatomical minutiæ are forgotten as soon as the examination ordeal has been passed. Topographical details undoubtedly quickly fade from the memory, but anatomy is not alone among the sciences in this respect. Details of most sciences do not linger long, and physiology assuredly can claim no superiority here. A minute knowledge of the electrical phenomena of muscle and nerve, or of the statistics of nutrition, will scarcely be remembered any longer than the relations of an artery or the exact attachments of a muscle. From this point of view, therefore, little can be advanced on one side of the question that cannot be similarly urged on the other; for just as the larger and more important physiological conclusions are likely to be prominently retained, so the anatomical facts which have a direct bearing on medicine and surgery are rarely forgotten, especially if the study of this science is not abandoned in the early years of the curriculum, but is carried on for some time after the student has familiarised himself with cases of disease in the hospital wards. We are disposed to think that the study of anatomy is often given up at too early a period, for it is when the practitioner is brought face to face with disease that he begins to appreciate the real practical utility of a knowledge of topographical anatomy, and it is then that he begins to regret his premature exit from the dissecting-room. The value in surgical operations of careful manipulation and ready discrimination of tissues, and the advantage of a correct knowledge of the topography of the viscera to the physician, are so very obvious, that they might have been mentioned by Professor FOSTER as a set-off when he objected to the amount of time which the student spent on topographical anatomy. Every surgeon who has secured a reputation as an operator in modern times has, as far as we can recall, been a most diligent and painstaking dissector. Moreover, if the mere manual dexterity which every good surgeon must possess be not acquired during his stay in the dissecting-room, it is but rarely obtained in later years. The question at issue, however, is much broader than that of mere practical utility, so very important as this is. Is the disciplinary power of anatomy on the mind so great as to justify the amount of time which the medical student devotes to it? Is physiology the equal of, or even superior to, anatomy in this respect? These are the questions which must be decided, and on their decision the relative place of these sciences in the medical curriculum must be determined. The advantages of the study of anatomy in disciplining the mind, as laid down by Professor TURNER, are, that it is specially adapted for cultivating habits of observation, accuracy, and patience, and for strengthening the memory and reasoning powers; and these are surely sufficient to give it a foremost place in all medical educational schemes. In this estimate of its value Professor FOSTER in the main agrees. "In past years it has served as the chief culture of the medical student—as the chief means by which the rough materials coming up to our great medical schools were trained to habits of accuracy, of exactness, of patient, careful observation, and their memories strengthened by exercise for the subsequent strain which would have to be put upon them by more strictly professional learning." The only point claimed by Professor TURNER which is not admitted by Professor FOSTER is the important one of its effect in developing the reasoning powers. This difference of opinion is dependent on the standpoint from which the science is looked on. Professor FOSTER says that anatomy is a sterile subject, whose separate details hang loosely isolated in space, held together by no theory and no ideas; whilst for Professor TURNER the science embraces not only morphology but something more—viz., ideas of structure and construction, as well as conceptions of form, position, and relations. Thus anatomy, in respect to the reasoning faculty, is mainly regarded by the one in the light which it presents itself to the professional crammer; whilst in the mind of the other it is surrounded by all the traditions engrafted on it by a succession of eminently philosophical teachers. Indeed, to the latter it is the true preliminary, not only to medicine and surgery, but

to physiology and pathology also; and we most cordially agree with this estimate of the position of anatomy, if it be considered in its wider relations, and as every real teacher should encourage his students to study it. Even if physics and chemistry exercise a discipline on the mind similar to anatomy—and this we are not inclined to admit,—it is but rare that a medical student enters on his studies with the advantages of a thorough training in these sciences, and it is only by a *thorough* training that their educational effects are secured. Moreover, such students have obtained a discipline which might relieve them, as far as mental influences are concerned, from a study of a great deal of physiological as well as of anatomical details. The power of continuous application and of the mastery of facts is already theirs. But the untrained student is still the rule, and not the exception, as Professor FOSTER'S experience seems to imply, and that he can be as easily trained to habits of accuracy, precision, and patient observation by the study of physiology as of anatomy, chemistry, or physics, is a proposition which we doubt very much, and is by no means in accord with our experience. When we are told on physiological authority that the average length of life of new physiological facts—a very curious use of the word fact to us—may be reckoned at about three years, we can understand its influence in training the mind to reason on data of mixed and uncertain value, and of strengthening the faculty of struggling to a conclusion out of the confusion of conflicting facts and views. In many cases unfortunately the conclusions are afterwards found to be untrue, and the reasoning faulty, owing to defective data rather than to any illogical course of reasoning, so that the student too often halts hesitatingly at a conclusion, or carries an erroneous theory with him throughout his subsequent career, and bases his medical practice thereon. Of course such disastrous results can only happen when the student does not appreciate the true methods and value of physiology and fails to disentangle theories from facts; but how large a proportion of men fail in a just discrimination of these essentials? Physiology at present is far from being an exact science, and in this lies both its strength and its weakness as a discipline for the mind. As it gains in exactitude and precision—in fact, the nearer it approaches the physical sciences—the greater will its influence be in inducing habits of accuracy and observation, but these cannot be gained without the sacrifice of its present efficiency in developing the power of inference from approximate data only. Cultivation of this faculty is of the utmost importance during the period of studentship, and too much stress cannot be laid thereon, for it is ever in demand in the daily life and work of our profession. Whilst we therefore entertain a high regard for the disciplinary power of physiology in this special respect, we cannot agree with Professor FOSTER that the present relations of the two sciences should be reversed, but must firmly urge that physiology can only at present be permitted to supplement anatomy in medical education, whether we regard its practical utility or its value as a mental discipline. Indeed, we are inclined to regret that the time at the disposal of the medical student does not permit him to spend a winter session in gaining an insight into the details of anatomy, before he is brought face to face with the less obvious and more abstruse deductions of the science of physiology. If this could be done, not only would both sciences, but the arts of medicine and surgery also, be immeasurably improved.

THE vacancy in the Crown appointment for Ireland in the General Medical Council, by the resignation of Dr. ALFRED HUDSON, gives the Government an opportunity of reverting to the original design of these Crown nominations. A study of the nature of the case and of the state of feeling at the time of the passing of the Bill, both among statesmen and members of the profession, goes to show that the Crown nominations were intended as a means of supplying members of Council who should be familiar with general practice and with the defects of medical education and examination, as shown by the experience of general practitioners. The overwhelming representation otherwise secured to universities and corporations makes it quite unnecessary to give them further representation. On the contrary, to make the Council effective and less considerate of the mere pecuniary interest of corporations, it is in the highest degree desirable to select as Crown nominees men who will really take a public and practical view of questions affecting medical education and registration.

The Government will very soon be asked to complete the Medical Acts by amending them. But pending this action on their part, it cannot do a more liberal or a more proper thing than by using its powers as Crown vacancies occur so as to make the Council really representative of the experience and the intelligence of the great body of general practitioners. The great physician whom Dr. HUDSON succeeded—Dr. STOKES—was so unfamiliar with the case of the general practitioner that he confessed, with his unfailing truthfulness, that he had never been in the chamber of a lying-in woman. It is not to be wondered at, with so many practitioners in the Council in the fashionable ranks of practice, that great branches of practical medicine and great lines of practical medical education are overlooked. We commend to the Lord Lieutenant of Ireland, and to Mr. FORSTER, so familiar with both Ireland and the question of medical reform, the views that we have set forth. The courtiers and the corporations will give them other advice, and urge them to pile up representation on the over-represented medical authorities, many of them, like the University of Oxford, having no claim to be so considered. We venture to believe that, as the late Government gave the last Crown appointment to a general practitioner, the present will do likewise.

IN 1877 Dr. TAPPEINER published an important series of observations on the production of tubercular disease in the dog by the inhalation of the sputa of persons suffering from phthisis. He has lately extended his investigation by an attempt to ascertain whether the inhalation of material from scrofulous glands is capable of producing the same effect, and the results have been published in VIRCHOW'S *Archiv*. If scrofulous diseases are indeed identical with tubercular processes, as it is fashionable now to assert, the effect of inhalation of gland-pus ought to be the same as that of phthisical pus. The material for the experiments was pus from a scrofulous boy, five years of age, with suppurating glands. Half a gramme of pus was obtained daily, mixed

with 100 grammes of water, and the dogs were made to inhale the atomised mixture for a quarter of an hour during about ten days. For purposes of comparison, two dogs were similarly treated with phthisical sputa. These two, and one of the dogs treated with the gland-pus, were killed and examined twenty-three days later. The organs of the latter were found to be perfectly normal, although the animal had presented a cough and loss of weight. In the two dogs treated with phthisical sputa, tubercular nodules were found in both lungs and spleen; their nature, from the microscopical characters, was beyond doubt. The two other dogs treated with gland-pus were killed and examined thirty-three days after the commencement of the inhalation, and the organs were also found free from tubercle. The same negative result was obtained in the case of two dogs killed on the twenty-ninth day after the inhalation of gland-pus.

Further investigations were made as to the period of incubation from the commencement of the inhalation of phthisical sputa until the tubercles are distinct in the lungs. One dog was killed on the thirteenth day after the commencement of the inhalation; it had coughed for eight days, and had lost three-quarters of a pound in weight; no tubercle was found in the organs. In another dog, killed on the nineteenth day, also, no tubercle was found. It thus appears that the period of incubation is more than nineteen days. Another dog, treated at the same time and in the same way with phthisical sputa, was killed three months after the commencement of the inhalation, and abundant tubercles were found in the lungs and pleurae.

By the suggestion of Professor WALDENBURG, two other dogs were treated with sputa from simple chronic bronchitis, fifteen grammes daily for ten days; and they were killed on the twenty-eighth day after the commencement of the inhalation. The post-mortem examination showed both lungs to be perfectly normal, without a trace of tubercle. The experiments were made at Berlin, and the pathological results ascertained by GRAWITZ, ISRAEL, and FRIEDLANDER, under the supervision of VIRCHOW, so that the facts appear to be beyond question.

The conclusions drawn by TAPPEINER from these experiments are: (1) The inhalation of phthisical sputa by dogs, even in small quantities, produces with certainty tuberculosis of the lungs, with or without general tuberculosis, especially of the spleen. (2) The stage of incubation is, in dogs, longer than nineteen days, but shorter than twenty-three days. (3) The inhalation of scrofulous caseous pus from glands produces no infection—a fact which indicates an essential difference between scrofulosis and tuberculosis. (4) The inhalation of the sputa from chronic bronchitis is equally ineffective.

The facts ascertained in these experiments are certainly of a very important nature. The period of incubation, however, can hardly be fixed from so small a number of experiments, since it may not improbably be subject to considerable variation. But these observations constitute experimental confirmation of the infection of phthisis, to which many clinical facts point, and they indicate the probable mode by which the infection is produced. The difference in the effect of scrofulous pus and phthisical sputa, if not entirely conclusive as to the difference between tubercular and scrofulous affections, indicates that we must still pause before we abandon the older view. That view rests, we must remember, on clinical facts, which were so well described long ago by Sir WILLIAM JENNER; and these facts must be explained away if we are to accept, as Dr. HILTON FAGGE would have the members of the Pathological Society accept, the results of inoculation experiments as conclusive evidence of the identity of the two conditions.

WE publish elsewhere a copy of the instructions issued by the Government of India, defining the relative authority of the Surgeon-General with the Government of India and the Surgeon-General, Her MAJESTY'S Forces, over the officers of the Indian Medical Service. These instructions appear to be made in accordance with the General Orders issued in January and March last. They place all medical officers in civil employ and medical store-keepers under the orders of the Surgeon-General with the Government of India, and all those employed on military duty under those of the Surgeon-General of the British Forces. All medical officers are to be available for military service when required, and none are eligible for civil service until they have completed two years' actual military duty. Rules are also laid down for the mode of proceeding in applications for medical officers for civil employment, and with regard to the keeping of records of services, confidential reports, and other documents relating to the officers. These instructions appear to be merely such orders as might naturally be required for the clearing up of difficulties connected with the working of a new system, and do not seem to make any alteration in the principles laid down in the previous General Orders. They evidently are not in any way the result of the inquiry which the Governor-General intimated his intention of making into the principle on which the recent reorganisation was based, and the changes which may be deemed necessary to remove the grievances of which the Indian medical officers now complain. The Marquis of RIPON has not yet had time to make a full investigation of the subject, but it appears to us probable that ere long he will effect considerable modifications in the service, and not improbably recommend a separation of the military from the civil branch, and an amalgamation of the Indian with the British Army Medical Service.

Annotations.

"Ne quid nimis."

THE DEATH OF SIR ALEXANDER COCKBURN.

THE lamented death of Sir Alexander Cockburn has cast a genuine feeling of bereavement over the legal profession, and awakened the regretful sympathy of the community as a whole. He was a man who not only tried to do his duty, but in an exemplary manner succeeded. He served his country well, and few patriotic public servants have done as good work with so little demonstrative claim for acknowledgment or with better tact. The death of this much respected gentleman should be a warning to the "hale and hearty" of advanced age. It is not only expedient but indispensable to husband the residue of vital force when the stock is getting low. Sir Alexander Cockburn was not the man to spare himself, and up to the day of his death he, with very few intervals, worked as hardly and intensely as he had done in the prime of his life and vigour. We do not say that this

was bad policy in itself, but it was not so wisely carried out as it might have been, considering the exceptional sagacity of the man of whom we are speaking. The judges are compelled to take muscular exercise when they can, and if they did not walk more than other men of their class, they would suffer the effects of sitting long hours in densely-crowded and ill-ventilated courts. There cannot, however, be any question that a long walk on an excessively cold day, after a sitting, was not the least exacting form of exercise which a man so advanced in years as the late Lord Chief Justice could have taken. The lesson of the event may be a timely warning to the aged and energetic who "feel well" to avoid throwing too much work on organisms, which must, in the nature of things, be weakly even when they seem strong. It is better to take the "constitutional" before the day's work than after it. The exercise a sedentary man takes immediately before his dinner should be comparatively gentle, and certainly moderate. When the mental and nervous parts of the frame are weary, or even exhausted, is not a time for work. Much harm results from the ill-founded hypothesis that we can rest one part of the body by working another. The organism is more closely knit together, and healthy work is more dependent on harmony of activity, than many seem to suppose. General sleep is made up of many minor forms of sleep, and healthful and safe exercise is scarcely possible when *any* part of the system is severely fatigued.

EDUCATION IN WALES.

IN an interesting pamphlet entitled "Higher Education in Wales," the Rev. D. J. Davies, Fellow of Emmanuel College, Cambridge, has set forth some remarkable facts concerning the ability of Welsh children. Taking statistics as given in the two last reports of the Committee of Council on Education, he finds that the chief sources of income of Board Schools are the rates and the Government grant which varies with the proficiency of the children. Now the average English child earned, in 1875, 15·4 per cent. of the total maintenance at school, while the average Welsh child earned 22·6 per cent. of the cost of its maintenance. In the following year the percentages were 16·0 for England and 24·4 for Wales; in 1877, 18·3 for England, and 29·0 for Wales; and 1878, 19·6 for England and 31·1 for Wales. Or, as Mr. Davies forcibly puts it, "an English ratepayer who pays £5 towards his school would have to pay only £4 17*s.* 6*d.* if all his geese were swans—if all his children were Welsh children." A scheme is now on foot to improve and increase the educational resources in the Principality, and it is to be hoped that the State will be as liberal in this point as it has been to Scotland and Ireland. Two proposals are under consideration—one the foundation and endowment of a Welsh University; the other the establishment of training schools and colleges where lads of promise could receive special training in order to compete for scholarships at the established universities in England. Certainly the latter scheme promises to be more generally useful, though, from sentiment, there are some who favour the former. A Welsh university, however, would soon sink into a mere training college for clergy, since the lads destined for the bar or the medical profession would, if they wished to escape hopeless isolation, continue to seek their education either at London, Manchester, or some other populous centre. Indeed, if a lad had to leave home at all he would probably live as cheaply in England as at Cardiff, Swansea, or Bangor; whilst the railway fare would be only a trifling consideration. So many Welshmen have earned distinction in our profession, and conferred honour on it, that we should regret the success of any scheme that would limit many of them to a sphere of merely local usefulness or celebrity. Although, according to Mr. Davies, the Welsh child beats us in the blue book statistics, we should be sorry to miss him as a competitor in our mature years. We hope the establishment of training-schools on a liberal scale throughout the Principality will enable an ever-increasing number of Welsh lads to come forward and compete on equal terms with English, Scotch, and Irish students at our already existing universities. In such a race every British-born subject should start on equal terms; and as the Welsh only ask for what has been already conceded to the Irish and Scotch, it is but just that their request should be allowed.

THE EXTINCTION OF THE QUEEN'S UNIVERSITY IN IRELAND.

THE Queen's University has resolved not to die quietly or without a protest against its extinction. For this purpose Convocation have asked the Prime Minister to receive a deputation. The chief force of their case is in two propositions: first, that the late Lord Chancellor grievously misapprehended the nature of the university, describing it simply as an examining board, whereas it is a university of the strictest academical type that has yet been realised in the British Isles, and, by his own misapprehension, misled Parliament; secondly, that the systems of teaching and of examination, adapted to each other in accordance with an experience of thirty years, have worked well, and are increasingly appreciated every year. As regards the Faculty of medicine and the Degrees in medicine, we think there can be no doubt that the Queen's University was doing a very valuable work, the interruption of which will be a misfortune.

COLD FEET.

IT is, as we have often laboured to show, a mistake to suppose there is any warmth in clothes. Animal heat is the direct result of changes going on within the body itself. Nutrition by food, and the discharge of energy by exercise, are the efficient causes of heat. Clothes "seem" to warm because they prevent the cold air and objects with a capacity for heat which surround the body from attracting the heat generated within its organism. The clothing is simply an insulator. It follows that it should be light in weight, and above all things that it should permit the free and full circulation of blood through every part of the system—to the end of every finger and toe—and that the muscular apparatus of the extremities should be in perfect working order. If we will wear foot-coverings, whether boots or stockings, which compress the feet and render the separate action of each toe impossible, it is simply absurd to expect to be warm-footed. Heat is the complement of work and nutrition; and if a part of the organism is so bound that it cannot work and its supply of blood is limited, it must be cold. The resort to stouter and heavier clothing under such circumstances is simply ridiculous. Generally it is the stockings that compress the feet. The garter acts as a ligature, and diminishes the blood-supply, while the stocking itself acts as a bandage, and impedes the circulation through the extremity. Let anyone who doubts this try the effect of wearing what is called a "well-fitting"—that is, a tight kid-glove in cold weather. Hard unyielding foot-cases, such as stout boots with no space for the toes to play and no spring for the natural action of the arch of the foot, increase the evil. The first conditions of warmth are, therefore, free action and a full blood-supply. These remarks apply chiefly to the day. At night the wearer of tight and rigid foot-coverings reaps the recompense of his imprudence by sufferings which are wholly needless. When the body is placed in the recumbent posture the force of the blood-pump—the heart—is economised, and the current grows both weaker and slower. The necessary result of this change is, that there seems to be a tendency to coldness in the state of sleep,

and those who suffer from cold feet seek to remedy this discomfort by heaping clothes on their extremities. They forget that the way to maintain animal heat is to incite the system to work. By judiciously and *rapidly* bathing the feet in cold or cool water before going to bed, and then rubbing them so as to promote the circulation, the blood-supply of the extremities may be augmented; and by the avoidance of heavy and, what is called, warm bedclothes on the feet the force of the circulation in the organs will be maintained far more effectually, and with incomparably greater comfort, than when the coverings are doubled and trebled, and even supplemented by artificial heat because the feet are cold! There are, of course, cases in which a different method of procedure must be adopted; but when the seemingly healthy resort to heavy and hard foot-coverings by day and artificial foot-warmers by night, it should be under express medical advice. The normal ways of procuring warmth are the best—namely, nutrition and work.

NEUROSAL PALPITATION.

AT the November meeting of the Medical Society of the College of Physicians in Ireland, Dr. Bernard made a communication on a case of Neurosal Palpitation which he had brought before the members of the Society last session. The patient was exhibited in the early part of the present year, and suffered from protrusion of the eyeballs, extreme palpitation, and some enlargement of the middle lobe of the thyroid body. Indeed, were it not that the latter sign was not well marked, the case might have been regarded as an example of exophthalmic goitre. The patient took a voyage to America, and returned quite free from all his former troubles, and with a pulse of 74 beats per minute. At the same meeting a case of Pericarditis was detailed by Dr. Walter Smith, Vice-President of the College, in which the "paradoxical pulse" had occurred.

STIMULANTS IN WORKHOUSES.

WE have another contribution to the elucidation of the difficult question of the therapeutical use of alcohol in workhouses in a report by Mr. Anderson, to the guardians of West Derby, Liverpool, in reference to the patients in Walton workhouse. At the urgent request of many guardians, supported by statistical representations from other unions, Mr. Anderson resolved in the treatment of hospital cases to give stimulants only in the most urgent and severe cases. During eight weeks ending November sixty-three patients died, with an outlay for stimulants of £31 17*s.* 7*d.*, whereas in 1879, only twenty-three died with a consumption of alcohol represented by £122 7*s.* 8½*d.*, and in 1878, twenty-two died with an outlay of £85 19*s.* 0*d.* Mr. Anderson thinks these figures show the impolicy of the treatment, and, in particular, expresses his opinion that to withhold stimulants from the sick poor in Liverpool in illness is to prolong their convalescence, owing to the impoverished state in which the majority come into the workhouse. Undoubtedly they must require sustaining and feeding treatment. And Mr. Anderson's figures may have some interest. But we cannot attach much importance to them, in the absence of many more details than are covered by a mere statement of the number of deaths and the bill for alcohol. This is obviously so bare a statement as to be without scientific value. What were the cases? and how far do the cases of one year bear comparison with those of another? what was the state of the weather? what of the employment of the people? what was the prevalent character of disease in Liverpool generally at each period? what food was given in the place of stimulants? &c. &c. These questions and others must be answered before any comparison can be trusted. Mr. Anderson's own figures show that he is hanging too much on thi one peg of stimulants. For example, between the years 1878-79 there was a difference of only one death, but there was a difference of £37 in the bill for alcohol. There was one death less in the year 1878, with an expenditure of £85 19*s.*, than in the year 1879, with an expenditure of £122! Clearly we have something more to learn about the mortality in the Walton workhouse than is told us by the bill for stimulants.

A SPINAL ROOT OF THE OPTIC NERVE.

STILLING of Strasburg showed preparations to the International Ophthalmological Congress at Mailand, in September last, which he believes demonstrate the existence of a spinal root of the optic nerve, which brings the retina into direct connexion with the medulla. This root passes from the external corpus geniculatum, in a winding course, deep between the bundles of the crus cerebri, and can be traced into the pons; and it appears to course down in the direction of the medulla, although its further progress cannot be demonstrated. The existence of this branch is interesting on account of the light it throws on certain physiological relations between the medulla and the retina, and may constitute the hitherto undiscovered link between certain diseases of the spinal cord and of the optic nerve.

DEATHS IN POLICE STATIONS.—HOSPITAL-CELLS.

THE subject of deaths in police stations needs to be discussed in a new fashion from a fresh standpoint. While these occurrences are all made the ground of graceless imputations on the humanity of the Force, they cannot be expected to command the attention the subject demands. Everybody knows that, with rare exceptions, the officers of justice in this country are full of feeling, and the authorities under whom they serve would incomparably rather do right than wrong, and save life than squander it, if only the system extant rendered the best modes of procedure possible. As it is, the cells at the most favourably constructed stations are placed in communication with the inspector's office, so that any prisoner can call for the assistance he or she feels to be necessary, and each cell is visited every hour; moreover, there is no reluctance to summon the surgeon in cases of doubt. What more can be desired? It might, indeed, be possible to build station-cells like the oakum-cages in prisons, open to view on one side, and to keep a patrol walking up and down, but he would probably have so much to do under circumstances which formed a standing invitation to malingerers that the system does not look promising. Might it not be worth while to consider the suggestion we have repeatedly made in these columns, hitherto without, so far as we are aware, attracting the slightest attention? It is this: Set apart a strong room at each of the stations for use as an infirmary. Fit and furnish this apartment judiciously and place it in charge of proper attendants. Let every case of real or supposed drunkenness, insensibility, or any sort of illness be placed therein. Let a medical man be called in at once to each of such cases, and whatever may be necessary done for the safety of the prisoner. Then let the charges for medicine, advice, and attendance be added to the amount of "costs" in every conviction or committal, or recovered, by a summary proceeding before the magistrate, from the prisoner or his friends. If the case proved to be one of simple drunkenness the expense incurred would be justly added to the fine. If it turned out to be one of illness the sufferer or his friends would willingly defray the cost of prompt assistance. The hospital-ward of a police-station might thus be a place where prisoners were under perpetual observation and where they received proper treatment, and the department might be easily made, in part if not wholly, self-supporting. Taking one police-station with another throughout the metropolis, or any large and popular district

where some provision of the kind is most urgently needed, we believe the arrangement would be found to work without burden to the ratepayers, and prove entirely satisfactory. It would be something to know that the scheme, which we have often urged on the consideration of the authorities, had at last been seriously entertained.

ARMY MEDICAL DEPARTMENT.

THE Secretary of State for War has decided to abolish the appointment of Head of the Statistical Branch, Whitehall-yard, vacant by the death of Deputy Surgeon-General B. Tydd. For the future the Sanitary and Statistical Branches of the War Office will be amalgamated and presided over by Deputy Surgeon-General J. Irvine, the present Head of the Sanitary Department. This arrangement is certainly an economical one for the State, but a loss to medical officers of the army of a Deputy Surgeon-General's appointment. It will remain to be seen whether the statistics and sanitary work in connexion with the army suffer in consequence of the reduced staff at head-quarters.

ANOTHER PAY HOSPITAL.

OUR advertising columns give particulars of a praiseworthy experiment to provide a hospital where middle-class people and well-to-do artisans may be supplied with the advantages of hospital treatment, with the comfort and privacy of home on comparatively independent terms. The institution, Bolingbroke House Pay Hospital, is situated in Wandsworth Common, has a committee of management, and a medical staff of six gentlemen, from which patients may select their own adviser. Such experiments deserve to succeed. It is considered that such hospitals can only be made to pay by an average payment per week per patient of two guineas.

CHIAN TURPENTINE IN CANCER.

AT the meeting of the Medical Committee of the Middlesex Hospital on Nov. 20th, 1880, it was resolved that no more Chian turpentine should be ordered for the treatment of cancer, as, after a prolonged and careful trial, it had been found that its results were perfectly negative.

BY the coolness and courage of his coachman, Dr. Rawdon Macnamara, of Dublin, was last week saved from an accident which might have been attended with very serious consequences. It appears that on the 20th instant Dr. Macnamara was returning home after paying his professional visits, and his horses, eager to reach their comfortable stable, got into a pace which required checking with a vigorous hand. The reins at length parted under the strain, and the animals, thus freed from control, dashed along Stephen's-green at a furious rate, to the imminent danger of the occupants of the carriage. In this emergency the coachman bravely and adroitly balanced himself upon the pole of the vehicle and managed to seize the broken ends of the reins, and thus prevent an otherwise inevitable catastrophe.

A SERIES of lectures is to be delivered at the National Hospital for the Paralysed and Epileptic, Queen-square, during the present winter by the members of the medical staff. The names of the lecturers will be announced in the usual way. The first three lectures of the series will be given on Thursdays, Dec. 2nd, 9th, and 16th, at 5 P.M.

THE Lord Mayor, at the request of a deputation from the committee of the St. John Ambulance Association which waited upon him on Monday last, has consented to convene a meeting at the Mansion House after Christmas, with the view of promoting the objects of the Association.

IN reference to the spread of farcy and glanders among horses in London, Dr. Brewer, chairman of the Special Purposes and Sanitary Committee of the Metropolitan Board of Works, has called attention to faults in the construction of the drinking troughs erected about the streets of the metropolis. Not only are horses and cattle allowed to drink indiscriminately at these troughs, but children have been seen to quench their thirst at them. Hence an obvious source of danger, which it would be well to have removed by a flushing system or some other practicable measure.

THE formation of a Provident Dispensary in connexion with the Halifax Infirmary has been decided upon, and a committee has been nominated to carry out the proposition. We understand that the medical staff of the infirmary ar not favourable to the project.

AT a meeting convened at Colchester to support the repeal of the Contagious Diseases Acts, a counter-proposition approving of the measures was carried almost unanimously. The meeting, however, appears to have broken up in disorder.

THE successor to Professor Wilms in the post of chief surgeon at Bethany Hospital in Berlin is stated to be Professor Rose of Zurich, who for some years acted as assistant to the deceased surgeon.

SURGEON-GENERAL FREDERICK FREEMAN ALLEN, M.D., C.B., has been appointed Honorary Physician to Her Majesty, rendered vacant by the death of Deputy Inspector-General Goodeve.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF THE MEDICAL INSPECTORS OF THE LOCAL GOVERNMENT BOARD.

Pontardawe (*Rural Sanitary District*).—The Pontardawe rural sanitary district is situated at the upper part of the Swansea valley, and is drained by the river Tawe and its tributaries. Early in the present year the Local Government Board held it desirable to direct an inquiry to be made into the prevalence of enteric fever in and general sanitary condition of the district, and Dr. Parsons was instructed to undertake the duty. His account of the district shows that although in the inhabited localities the slovenly and unwholesome characteristics of the older Welsh mining districts still preponderate, a gradual amendment of the sanitary condition of the villages has been taking place in recent years, and may be anticipated to continue under existing arrangements for their sanitary administration.

As to the prevalence of enteric fever in the district, Dr. Parsons shows that two sets of conditions combine to bring about this prevalence. First, there are the local and still unamended conditions causing fouling of air, soil, and water with excremental matters, and which are known to favour the existence of enteric fever; and, second, there is the liability of the district to infection with the disease from the neighbouring town of Swansea. Of the operation of both these sets of conditions Dr. Parsons furnishes most interesting illustrations, and particularly he gives an instructive account, illustrated by maps, of an outbreak of enteric fever at Ystalyfera in 1879, which had been carefully worked out by the medical officer of health, Dr. Thomas, and which, originating from an imported case from Swansea, was determined by the pollution of a source of water-supply to which the excremental discharges of this patient had accidentally got access.

Stourbridge (*Registration District*).—This report, also from the pen of Dr. Parsons, is one of a class which there seems an increasing tendency on the part of the Medical Department to favour. It refers to the sanitary condition of a whole

registration district, which contains, in addition to three urban sanitary districts, a large rural sanitary district. The entire district has an area of 16,116 acres, a population (1871) of 73,386, and houses to the number (1871) of 15,400. The attention of the Local Government Board has been directed to it (not for the first time) by the recent great prevalence of scarlet fever in the district, its undue general mortality, and the excessive mortality of certain infectious diseases, particularly small-pox and scarlet fever, within it. The following passage from the report shows the apparent relation between the fatality of scarlet fever and the general death-rate of the Stourbridge registration district:—"There appears to be some relation between the degree of fatality of scarlet fever and those sanitary and social conditions upon which the amount of the general death-rate depends. With the exception of the Quarry Bank district, the death-rate from scarlet fever follows pretty closely that from all causes; the Worcestershire division of the rural district, the sanitary condition of the principal places in which will be described in this report, figuring high both in regard of total death-rate and of death-rate from scarlet fever. It can hardly be doubted that the pollution with filth of the water which people drink, and of the air which they breathe, must tend to increase the virulence of an outbreak of scarlet fever, both by affording opportunities for the conveyance of the infective matter from person to person, and by placing those who are attacked under circumstances less favourable to recovery. One condition especially would seem eminently favourable to the conveyance of the infection from case to case—viz., that in most parts of the Registration District the liquid refuse of houses, so far as it is conveyed away at all, runs down open channels, often of very rough construction, very frequently for a considerable distance, passing in its way other houses, and trickling down the gutters, or stagnating upon the surface, of the public streets. It is known that the poison of scarlet fever is given off copiously from the patient's body in the scales thrown off from the skin and in the liquid excretions; it would therefore necessarily be largely present in the washing water and other foul liquids which find their way down these channels, giving off emanations which the passers-by cannot avoid inhaling."

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Birmingham.—The report of the medical officer of health (Dr. Alfred Hill), for the summer quarter ending October 2nd, shows that the birth-rate of the town during the quarter was 36·2 per 1000 population, as compared with 40·2 and 38·3 in the third quarters of 1878 and 1879; and the death-rate 21·65, as compared with 22·25, 25·90, and 16·35 in the third quarters of 1877, 1878, and 1879 respectively. The increase on the summer quarter of 1879 is entirely accounted for by the much greater fatality of diarrhœa during the quarter of the present year, and on this Dr. Hill observes: "There can be no doubt that the higher temperature was the grand predisposing cause of the increase of infantile diarrhœa, while there can be scarcely less doubt that improper food and feeding constituted the principal exciting cause."

Bristol.—Mr. Davies in his report for the third quarter of the year states that the rate of mortality in the city was 17·9 per 1000 population, as compared with 16·5 during the corresponding period of 1879. The birth-rate was 33·4 per 1000 population, as compared with 35·4 in the third quarter of 1879—a falling off which he attributes to the long-continued commercial depression, and possibly an increasing emigration of the working classes to more promising fields of employment. 2·4 per cent. of the deaths which occurred during the quarter were registered without a medical certificate or a legal inquiry regarding the cause of death. "Such a fact," he observes, "is a disgrace to a civilised community, as it leaves an open door for crimes at which humanity shudders."

THE NOTIFICATION OF INFECTIOUS DISEASES.

The chance-medley sort of private legislation which is going on in the matter of notification of infectious diseases is aptly illustrated by the provisions in this respect which received the assent of Parliament last session, in the Huddersfield Improvement Act, 1880. In an Act of 1876, Huddersfield obtained powers to require the notification of certain infectious diseases from medical men residing in the borough; but the provisions of the Act had been so imperfectly considered, that from the first they proved unworkable. If we mistake not, a fee of 2*s.* 6*d.* was to be given to the medical man for each notification, and the duty was imposed upon the medical man to report each case. The Corporation had not counted the cost, and were aghast at what they had brought upon themselves, and so they proceeded forthwith to explain away the literal meaning of the Act by stating that they meant (the phraseology of the Act notwithstanding) only the *first* case of infectious disease occurring in a house to be notified, not subsequent cases, should a series of cases follow. Hence arose difficulties with the medical practitioners which ought to have been foreseen and provided against. But the Corporation in its new Act appears to have gone out of its way to make the provisions for the notification of disease as insulting to the medical profession as they could well be, and the insult is not the less from the slovenliness and want of foresight with which the provisions have been drafted. The medical practitioner called in to a case of infectious disease *must*, it is provided, *forthwith* notify this to the Corporation either at their Sanitary Office, or if the same be closed, at their police station; for doing this he is to receive a fee of *one shilling* (!), and such fee is to apply only to *one* certificate by the same practitioner in regard to the same disease, from the same building, for a period of thirty days; ("but only one such certificate need be given, and only one such fee is payable within an interval of thirty days, to the same medical practitioner, in respect of the same disease occurring in the same building.") Nor is this all: the Corporation, which has provided for such magnificent remuneration (*under a penalty of £10 for neglect*), in a circular issued to medical men, express a hope that they will loyally assist the Corporation in carrying out the new provisions, and state that it will be esteemed a favour if, "in addition to the particulars required by the section, the medical practitioner would also give such information as he is able to give upon other points on which queries are appended in the printed forms." The queries referred to are six in number, and the object of the form as it stands appears to be to induce medical men to relieve the medical officer of health as much as possible of his duties, and enable the Corporation to obtain the services of that officer at a cheaper rate! It might be thought that the Corporation of an important town could not well descend to greater depths of meanness and narrow-mindedness in the performance of their public duties than is here shown. But there is a greater depth still. *The medical man is expected to pay the cost of sending, whether by the post or otherwise, the notification to the Corporation offices!* Add that while the provisions contemplate that notifications of infectious disease will be sent at all hours day and night, it does not contemplate that the sanitary officers, for whose immediate information they are sent, shall be available to make use of them for more than a few hours during the day, and it proposes to devolve part of its duties of sanitary administration upon the police. In other words, the provisions betray as little knowledge of what is required to give due practical effect to notifications of disease as they do of the courtesy which is due to a learned profession.

Surely it is time that this chance-medley private legislation in regard to the notification of diseases should cease, and that a general measure should be promoted on the subject by the Government.

THE METROPOLITAN WATER-SUPPLY.

The delegates of the Vestries and District Boards of Works of the Metropolis, at a recent meeting, agreed to a memorial to the Home Secretary, of which the following are the principal points:—"The memorialists are anxious that the recommendations by the Committee of the House of Commons, Session 2, 1880, should be carried out with the least possible delay, and agree that it is expedient that the supply of water to the metropolis should be placed under the control of some public body which shall represent the interests and command the confidence of the water consumers. That, in the absence of any single municipal body to which these functions could be committed, and until the same is created, they concur in the desire that a water authority of a representative character should be constituted on a basis no less representative than that of the London School Board, and that a Bill having that object should be introduced at the earliest possible moment. They do not concur that such body should be filtrated from the Metropolitan Board and the City Corporation, but should be absolutely representative of the ratepayers direct, including representatives of the districts supplied by the water com-

panies. They desire to represent that such body or trust should be authorised to acquire the undertakings of the existing companies, if the same or any of them can be acquired upon fair and reasonable terms; but, failing such arrangement, their powers should extend to the introduction of an independent water-supply, with the requisite authority to raise capital, to impose rates, and to control, in the interest of the ratepayers, this essential necessary of life." At the meeting of the Metropolitan Board of Works on the 12th inst. it was stated that at the first conference of delegates from Vestries and District Boards of Works in the Metropolis (over thirty in number) on the metropolitan water-supply, not more than ten or eleven of those bodies were represented.

COMPULSORY NOTIFICATION OF INFECTIOUS DISEASES IN DUBLIN.

At a meeting of the Corporation of Dublin held last Monday, the Lord Mayor referred to the deputation of medical gentlemen who had waited on him the previous week for the purpose of showing the necessity of introducing an Act of Parliament making it compulsory to notify to the sanitary authority in Dublin the presence of any infectious disease in any house. The principal difficulty, he thought, would be met with amongst the poorer classes; but it was also most necessary that such notification should be made when infectious disease existed in any house of the wealthier classes. He considered it would be advisable to introduce a Permissive Act, applicable to the whole of Ireland, giving the Local Government Board power to direct the clauses to be carried out in those districts when it appeared desirable. As regarded the details there was some difference of opinion. Some considered that the notification should be made by the medical attendant, while others were of opinion that the duty should be thrown on the householder; but a middle course was suggested—namely, that the medical practitioner should hand a printed form to the inmates of the house, informing them of the infectious disease and of the requirements of the law; but throwing the responsibility of making the notification on the householder. His lordship suggested that a deputation of the Council should wait on the Chief Secretary for Ireland, and ask him to introduce a Permissive Bill applicable to all Ireland, or whether the Government would support a Bill introduced by a private member. A resolution to this effect was adopted, and it was determined that various suggestions should be prepared to lay before the Chief Secretary, as to the mode of carrying out the proposal; with power to consult with the medical deputation which waited on the Lord Mayor, with a view to joint action, and if considered desirable a joint deputation.

SCARLET FEVER IN DUNDEE.

We are favoured with the following particulars respecting the recent outbreak of scarlet fever in Dundee. Between the 5th October and the 9th November 72 cases were reported to, or ascertained to exist in the town by, the Sanitary Authority. About the 22nd October a number of cases occurred simultaneously in a limited area at the south end of the town, and it was discovered that the families in which these cases occurred obtained their milk from the same dairy. Inquiry at this dairy elicited the following facts. About the 10th October a maid employed in the dairy visited her father's home, where scarlet fever had recently been, and removed therefrom some articles of clothing for her own use. A week after she again visited the same house, and on the 22nd October the dairyman's daughter was seized with an attack of scarlet fever. By the 31st October a number of the dairyman's customers were ill of scarlet fever, 15 cases having occurred in eight different homes. The Sanitary Authority at once adopted proper measures, and now the dairy in question is entirely free from infection.

The more attention is given to the limitation of infectious diseases the more difficulties seem to multiply. At a recent meeting of the London School Board attention was directed to the fact that a care-taker of a school in Lambeth, having a family of seven children, and occupying a house containing two rooms (!) only, communicating with the school, had scarlet fever among the family. Two courses to be followed here suggest themselves (neither satisfactory)—namely, to appoint care-takers without families of young children, or to detach the care-taker's house from the school.

Great Baddow, in Essex, has been suffering from both scarlet fever and diphtheria. The scarlet fever cases have not been numerous, nor has the disease been fatal. The diphtheria cases have been more numerous, and there have been several deaths among them. In one instance, we understand that a man who lost two children (by a former wife) from diphtheria in 1859, lost in this later outbreak of the disease three children—affording an interesting illustration of family predisposition to fatality from this disease. We trust that the Sanitary Authority will soon give to the public the report of their medical officer of health (Dr. Arthur Downes) on this concurrence of two infective diseases. Both diseases, according to our latest information, have now ceased in the village.

The Axbridge Urban Sanitary Authority having been recently asked by the Board of Guardians if they would receive patients sent by the Guardians into their statutory hospital, replied that they would be prepared to do so if the Guardians made arrangements for and provided all necessary medicine, medical attendance, beer, wine, spirits, and other requisites, and the cost of interment of any patient sent by the Guardians who might die in the hospital. We infer from this that the hospital in question is merely a building in which patients can be placed, and having none of the appliances proper for a hospital. The Guardians naturally decline to accede to terms so preposterous.

Dr. Hughes, the medical officer of health for Cardgian, has presented a special report to the Urban Sanitary Authority on a recent outbreak of scarlet fever in his district. It refers to 199 patients, of whom 101 were under five years of age. He found it impracticable to induce the parents of young children to isolate their children in hospital, and his efforts were checkmated by the popular belief that everyone must have the fever at one time or other, and the earlier the disease was "had over" the better.

The rains must, indeed, have been heavy of late, since a dealer in milk, summoned before the magistrates for diluting the commodity he sold with 20 per cent. of water, explained that rain must have found its way into the fluid during delivery, and so prejudiced his character. Sad to say, the magistrates refused to accept this explanation of the matter, and inflicted a fine of 40s. and costs.

Typhoid fever has broken out at Beer (Somerset), and it has been found necessary to take immediate steps to improve the sanitary condition of the village—in other words, to lock the stable door after the horse has been stolen.

Dr. Partridge, the medical officer of health for Stroud, was recently a petitioner to the Sanitary Authority of which he is the medical officer against a nuisance from smoke caused by a factory.

No. 7 of the Charity Reform Papers deals with the "Dwellings of the Poor and Present Legislation respecting them." It is a most useful and instructive paper.

Mr. Ashenden, the medical officer of health for Hastings, reports a death-rate of 14·37 per thousand in that town during the third quarter of the year.

The Limehouse Vestry is seriously considering the question of erecting a mortuary.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

The rate of English urban mortality, which had [been unusually stationary during the four preceding weeks, showed a decline last week. In twenty of the largest English towns, estimated to contain in the middle of this year a population of seven and a half millions of persons, or nearly one-third of the entire population of England and Wales, 4828 births and 3044 deaths were registered last week. The births were 357, and the deaths 231 below the average weekly numbers during 1879. The deaths showed a decline of 235 from the number returned in the previous week; and the annual death-rate per 1000, which had only varied from 22·6 to 22·8 in the four preceding weeks, declined last week to 21·2, a lower rate than has prevailed in any week since the middle of July. The lowest death-rates in the twenty towns last week were 16·1 in Birmingham, 16·4 in Hull, 18·8 in Sheffield, and 19·0 in Leeds. The rates in the other towns ranged upwards to 23·9 in Bristol, 24·0 in Oldham, 24·3 in Norwich, and 25·0 in Liver-

pool. During the first seven weeks of the current quarter the death-rate in these twenty towns averaged 22·1 per 1000, against 21·8 in the corresponding periods of the four years 1876–9.

The deaths referred to the seven principal zymotic diseases in the twenty towns, which had been 428 and 474 in the two preceding weeks, declined to 367 last week, a lower number than has been returned in any previous week of this year; they included 138 from scarlet fever, 58 from measles, and 55 from fever, principally enteric. The annual death-rate from these seven diseases averaged 2·6 per 1000 in the twenty towns, and ranged from 0·7 and 1·0 in Plymouth and Hull, to 4·3 and 6·3 in Norwich and Sunderland. The fatal cases of scarlet fever, which had been 150 and 163 in the two previous weeks, declined to 138 last week, and showed the largest proportional fatality in Sunderland, Oldham, Norwich, and Salford. Whooping-cough was most fatal in Sunderland. The highest death-rates from enteric fever occurred in Portsmouth, Norwich, and Newcastle-upon-Tyne. The 19 deaths from diphtheria in the twenty towns included 12 in London, and 2 both in Liverpool and Portsmouth. Small-pox caused 10 more deaths in London, against 7 and 17 in the two previous weeks; but no death from this disease was recorded in any of the nineteen provincial towns.

The deaths referred to diseases of the respiratory organs in London, which had steadily increased from 124 to 421 in the ten preceding weeks, fell to 332 last week, and were no less than 112 below the corrected average number in the corresponding week of the last ten years; 195 resulted from bronchitis, and 97 from pneumonia. The annual death-rate from lung diseases was equal to 4·7 per 1000 in London, 7·5 in Liverpool, and 7·3 in Salford.

In the twenty towns last week 82 deaths were registered without the production of the certificate of a registered medical practitioner or the holding of an inquest; these were equal to 2·7 per cent. of the total deaths. The proportion of uncertified causes of death did not exceed 1·3 per cent. in London, whereas it averaged 4·1 per cent. in the nineteen provincial towns. No uncertified deaths were registered in Leeds, Portsmouth, Brighton, or Plymouth, while the largest proportions occurred in Norwich, Oldham, Hull, and Sheffield.

HEALTH OF SCOTCH TOWNS.

In eight of the largest Scotch towns, having an estimated population of rather more than a million and a quarter persons, the annual death-rate last week was equal to 20·9 per 1000, against 24·2 and 23·8 in the two preceding weeks, and was 0·3 below the average rate in the twenty large English towns. The rates in the eight Scotch towns ranged last week from 13·6 and 19·4 in Perth and Glasgow, to 23·4 and 29·5 in Paisley and Greenock. The deaths referred to the seven principal zymotic diseases in the eight towns, which had been 115 and 125 in the two previous weeks, declined to 93 last week; they included 45 from scarlet fever, 13 from whooping-cough, 12 from fever, 10 from diarrhœa, 7 from diphtheria, 6 from measles, and not one from small-pox. The annual death-rate from these seven diseases averaged 3·7 per 1000 in the eight towns, and exceeded by 1·1 the average rate from the same diseases in the twenty English towns. In the eight Scotch towns the zymotic death-rate ranged from 0·5 and 1·7 in Aberdeen and Dundee, to 5·7 and 5·8 in Edinburgh and Perth. The high zymotic death-rate in Edinburgh was again due to the epidemic prevalence of scarlet fever. The fatal cases of this disease, which had been 47 and 53 in the two preceding weeks, declined last week to 45, of which 21 occurred in Edinburgh, 16 in Glasgow, and 6 in Leith. The deaths from whooping-cough, fever, diarrhœa, and measles also showed a decline from recent weekly numbers. Of the 12 deaths referred to fever (mainly enteric), 7 were recorded in Glasgow, 2 in Paisley, and one each in Edinburgh, Dundee, and Greenock. The 7 from diphtheria included 4 in Glasgow, 2 in Greenock, and one in Edinburgh. The deaths referred to acute diseases of the respiratory organs (bronchitis, pneumonia, and pleurisy) in the eight towns, which had steadily increased from 120 to 154 in the four preceding weeks, declined to 137 last week. The annual death-rate from these lung diseases last week was equal to 5·5 per 1000 in the eight Scotch towns, against 4·8 in London; the highest death-rates last week from these diseases in the Scotch towns occurred in Greenock and Dundee.

HEALTH OF DUBLIN.

The death-rate in Dublin showed a slight decline from the high rates that have recently prevailed. The annual rate of mortality from all causes in the city, which had been equal to 34·4 and 39·6 in the two preceding weeks, declined to 33·3 last week. During the past seven weeks of the current quarter, however, the death-rate in the city has averaged 34·4 per 1000, against 21·3 in London, and 22·4 in Edinburgh. The 201 deaths in Dublin last week were 38 less than the exceptionally high number in the previous week, and included 25, or 12 per cent., which were referred to the seven principal zymotic diseases, showing a further decline from recent weekly numbers; 10 resulted from fever (including typhus, enteric, and simple), 5 from scarlet fever, 4 from whooping-cough, 3 from diarrhœa, and one each from small-pox, measles, and diphtheria. The annual death-rate from these zymotic diseases was equal to 4·1 per 1000 in Dublin last week, against 2·6 in London, and 5·7 in Edinburgh. The deaths referred to fever, which had been 9 and 7 in the two previous weeks, rose to 10 last week; whereas the fatal cases of scarlet fever declined to 5 from numbers which decreased from 16 to 6 in the four preceding weeks. The deaths from whooping-cough and diarrhœa also showed a decline from recent weekly numbers. The excessive death-rate from fever (mainly enteric) is the most unsatisfactory feature in last week's zymotic fatality. The deaths of infants in the city last week were fewer than in any week since the beginning of August, but still showed an excessive rate. The deaths of elderly persons were but 7 less than those returned in the previous week.

VACCINATION AND SMALL-POX IN PARIS, DUBLIN, AND LONDON.

Small-pox was fatally epidemic in Paris and in Dublin during the first nine months of this year; and London during this period was never quite free from the fatal prevalence of this disease. The annual death-rate from small-pox during the nine months ending September last was equal to 1·35 per 1000 persons living in Paris and to 1·07 in Dublin, while the rate in London did not exceed 0·12 per 1000. Unfortunately the mortality statistics for these three cities are not uniform, but the published facts in the several official returns afford a means for estimating the amount and quality of infant vaccination. One of the most indubitable effects of vaccination upon small-pox mortality is the marked decline in the proportion of fatal cases occurring among children under five years of age. In the year 1847 no less than 73·7 per cent. of the total deaths from small-pox in England and Wales were of children under five years of age; whereas, since that date, under the influence of compulsory vaccination, the proportion of fatal cases occurring among children of these ages has steadily declined, and in 1878 it did not exceed 25·5 per cent. During these thirty-two years the proportion of fatal cases occurring under one year of age has declined from 25·4 to 12·0 per cent.; between one and two years of age, from 19·1 to 3·4 per cent.; and between two and five years, from 29·2 to 10·1 per cent. It is impossible to attribute this change in the proportional age distribution of fatal cases of small-pox to any other cause than the effect of more general vaccination. We may therefore approximately estimate the proportional extent and efficiency of vaccination in Paris, Dublin, and London, by comparing the relative amounts of infant mortality from small-pox in these three cities. In Paris during the first nine months of this year 26·4 per cent. of the total deaths from small-pox were of children under five years of age; in Dublin the proportion was no less than 34·5 per cent., and in London to 29·2 per cent. Judged by these figures, the amount and quality of infant vaccination differs little in London and Paris, whereas considerably greater neglect of vaccination appears to prevail in Dublin.

HEALTH MATTERS GENERALLY AT HOME AND ABROAD.

FATALITY OF SMALL-POX IN LONDON.

The prevalence and fatality of small-pox in London have shown a marked increase during the past few weeks, threatening a revival of the epidemic which commenced in 1876, and has never since died out. The deaths from this disease within registration London, which were but 56 and

75 in 1874 and 1875, rose to 735 and 2544 in 1876 and 1877, and declined again to 1416 and 458 in 1878 and 1879. In the first three-quarters of this year the fatal cases were respectively 122, 144, and 49; while 54 were recorded during the first seven weeks of the current quarter. They averaged 4 per week in September, 5 in October, and were 7, 17, and 10 respectively in the first three weeks of November. Since the end of September there has been a distinct and severe outbreak of small-pox in East London, notably in Bethnal-green; indeed, of the 54 fatal cases recorded during the past seven weeks no less than 31 were of residents of East London. The immunity from fatal small-pox which the nineteen large provincial towns have enjoyed since the beginning of 1878 forms a striking contrast to the continued prevalence of the disease in London; the recorded deaths from small-pox in the nineteen provincial towns, which have an aggregate population rather larger than that of London, have been but 28 since 1st January, 1878, while in London they have numbered no less than 2243.

The returns furnished by the Metropolitan Asylums Board Hospitals afford evidence strongly corroborative of the recent serious outbreak in East London. The number of small-pox patients in these hospitals, which had almost steadily declined from 237 in the middle June to 77 on Oct. 23rd, rose successively to 105, 114, and 118 at the end of the three succeeding weeks. During the week ending last Saturday they further rose to 182, a higher number than have been under treatment at one time since the middle of July. The number of new cases of small-pox admitted to these hospitals, which had been 38, 24, and 31 in the last three preceding weeks, jumped up to 99 last week. So large a number of admissions has not occurred in any week since February, 1879. Of 135 new cases admitted to these hospitals during the ten days ending 21st, 27 came from Bethnal-green, 20 from St. George's-in-the-East, 20 from Hackney, 13 from Stepney, 10 from Mile-end Old-town, 8 from St. Saviour's, Southwark, 5 from Shoreditch, and 4 from Whitechapel. The outbreak, therefore, is distinctly one in East London, and it is evident that it has already assumed large proportions; its control must now mainly depend upon the successful efforts of the local sanitary authorities to utilise the hospitals of the Metropolitan Asylums Board for isolation purposes, as they have provided no hospitals of their own. It would be interesting to know what steps are being taken to secure the vaccination of the considerable proportion of unvaccinated, or imperfectly vaccinated, children in these Eastern metropolitan districts.

INFANT MORTALITY IN AUSTRALIA.

The Registrar-General of New South Wales has recently issued the twenty-fourth annual report on the Vital Statistics of the Colony, which bears evidence of the continued growth of its population, estimated at the end of 1879 at 734,282 persons. The increase of population during the year was rather more than 40,000, and nearly equal to 6 per cent. upon the population of the preceding year. The report before us does credit to the printer as well as the compiler, and is full of interest as a record of the rapid progress of the colony. Viewed, however, as a contribution to vital statistics, it is in some respects open to criticism, and contains some faulty conclusions which have to be guarded against. Infant mortality in the Australian colonies is an interesting subject, and we were disappointed to find it treated in an unscientific manner. The report commits the fault of attempting to measure infant mortality by the proportion of deaths under five years of age to total deaths, with the inevitable result of leading to fallacious conclusions. We are told: "It will be seen that the rate of infant mortality is lower in Sydney than in the suburbs or country districts." Such a fact would be without a parallel in vital statistics, and should have suggested some source of error. The proportion of deaths of children to total deaths in populations differently constituted as to age distribution can never be usefully compared as evidence of infant mortality; and this source of error is most marked in new colonies, where populations are abnormally constituted as to age distribution. The true state of the matter as to infant mortality in New South Wales is exactly the reverse of what the Registrar-General has stated it to be. We have been at the pains to calculate the rate of infant mortality in the different subdivisions of the colony, measured by the proportion of deaths under one year of age to births registered. These facts are to be found in the report, but no use has been made of them for calculating a true rate of infant mortality. The proportion of deaths under one year to births averaged 107 per 1000 in the entire colony, while it was equal to 165 in Sydney, and 143 in its suburbs; it did not, however, exceed 88 in the country districts. Infant mortality in Sydney in 1879, therefore, instead of being lower was nearly twice as high as that which prevailed in the country districts. We venture to hope that in future reports this subject will be handled in a more scientific manner. True infant mortality is most satisfactorily measured by the proportion of deaths under one year to births, and the death-rate of children under five years by the proportion of deaths to children living at these ages. It is worthy of comment that the rates of marriages and of births in the colony have pretty steadily declined during recent years. This ought not to be the case in a population which is increasing rapidly by the immigration of young adults, and suggests defective registration; but it seems improbable that registration can be more defective than it was ten years ago.

SANITARY INSPECTION OF SCHOOLS: RUSSIA.

At a meeting of the Society of Medicine, St. Petersburg, on the 12th instant, Professor Andrïevsky maintained the necessity for a sanitary inspection of primary schools. He supported his position by the practice followed in Germany and Austria, but especially in Austria. There a medical council is attached to the Ministry of Interior, having the special duty of advising upon the sanitary requirements of schools and school-life, while provincial councils had special inspecting medical officers appointed, for the same purposes, in every city in the empire. The hygienic requirements of the school are prescribed by the Minister—its locality, the disposition of the classes, its lighting, arrangement of the benches, &c. Moreover, the school regulations include a series of provisions for the physical development of the children. At the conclusion of Professor Andrïevsky's communication the Society of Medicine resolved to approve the examination of the health of children at their entry into the primary schools and during the course of instruction there, and the advisability of medical opinion being consulted in the formation of educational programmes and the plans of schools.

HEALTH OF CALCUTTA.

Surgeon-Major D. K. McLeod's report on the health of Calcutta for the third quarter of 1880 shows that the temperature of the quarter had been moderate, the rainfall somewhat above the average, the humidity high, and the atmospheric pressure normal. In short, the quarter had been, on the whole, "agreeable and healthy," with "none of those rainless and 'steamy' intervals so unpleasant to sensation, and trying to health." The mortality of the town was below the decennial average, sickness was moderate, and no epidemic of any kind prevailed in the quarter. The deaths from cholera were less than in any of the corresponding quarters during the decade; the deaths from fever were almost unprecedentedly low, and the mortality from bowel-complaints was also at a very low level. Small-pox continued to exhibit few deaths, the deaths from "other causes" alone showing an increase above the decennial mean. Dr. McLeod remarks that arrangements are in good progress for carrying into effect the Vaccination Act of 1880.

DIPHTHERIA IN RUSSIA.

The Red Cross Society of Russia undertook to contribute within a period of six months, in aid of the measures being put in force for the arrest of diphtheria in the province of Poltava, 1,100,000 roubles in money; also to furnish several sanitary detachments. When the six months were expired any further expenditure needed, the epidemic still continuing, was to be borne by the government of the province. The period fixed by the Red Cross Society ended on July 12th, but the epidemic continues, and they have not withdrawn either their representative in the province nor the sanitary detachments they have organised there. Presumably the expense of the further work will fall upon the government of the province.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the Council held on the 18th inst., Mr. G. F. Blake was appointed Assistant Librarian in the vacancy caused by the resignation of Mr. J. Alex. Spencer, F.R.C.S.

THE SERVICES.

THE CANDAHAR DESPATCHES.

THE despatches recently published in the *Gazette of India* from Lieutenant-General Sir F. Roberts, V.C., K.C.B., Major-General Primrose, C.S.I., and the late Brigadier-General Brooke, C.B., from Candahar, bring prominently to notice the valuable aid rendered by medical officers on the field. General Roberts reports "Deputy Surgeon-General J. Hanbury, M.B., proved himself to be an efficient administrative officer, and carried on the duties of his responsible office to my entire satisfaction"; and he also brings forward among the names of the officers serving on his personal staff "who have at all times been unremitting in the performance of their duties" that of Surgeon J. F. Williamson, M.B. "General Ross speaks in high terms of officiating Deputy Surgeon-General J. Ekin, M.B." "Brigadier-General Macpherson records that the devotion of the medical officers of the brigade in attending to the wounded under fire was most admirable. He mentions Surgeon-Major S. B. Roe, 92nd Highlanders, Surgeon-Major W. Finden, 2nd Goorkhas, Surgeon E. H. Fenn, R.A., Surgeon H. J. Linton, 24th Punjab Native Infantry, and Surgeon H. Hamilton, M.D., 23rd Pioneers." "Brigadier-General T. D. Baker would wish to mention specially the names of the following officers:—Surgeon-Major G. W. Macnalty, M.D., and Surgeon-Major C. A. Atkins, for the manner in which they attended the wants of the wounded in the fighting line." "Brigadier-General Macgregor brings forward Surgeon-Major G. C. Chesnaye, 4th Goorkhas, and Surgeon-Major E. C. Markey." "Brigadier-General Hugh Gough thanks specially Surgeon-Major R. Lewer." Major-General Primrose mentions "Deputy Surgeon-General J. O'Nial, whose arrrangements for the wounded were all that could be desired, and Surgeon-Major B. T. Giraud, A.M.D., whose great attention to the wounded on the field has frequently elicited my admiration; also Surgeon-Major J. Arnott and Surgeon E. W. Kelsall." Brigadier-General Brook, reporting the occurrences of the 20th July, "asks for special consideration of the services of Surgeon J. Macnamara, the medical officer in charge of the column, who was most useful to me."

Surgeon-Majors J. M. Kirkwood, P. J. MacQuaid, and J. M. Beamish are on passage home from India in H.M. troopship *Euphrates*.

The appointment of medical officer to the Royal Military Academy at Woolwich will be vacant in December, Surgeon-Major E. H. Roberts having completed his five years' tour and being under orders to embark for Bengal by one of the next troopships.

ADMIRALTY.—Surgeon Henry B. Guppy to the *Ganges*, for temporary service. Fleet-surgeon Thomas Seccombe, placed upon the retired list.

THE MEDICAL DEPARTMENT.

THE following resolution has been passed by the Government of India. We reprint it from the *Times of India*, received by the last mail:—

It being desirable that the relative authority of the Surgeon-General with the Government of India and the Surgeon-General, Her Majesty's Forces, over the officers of the Indian medical service shall be defined, the Government of India direct—

1. That surgeons of the Indian medical service appointed to Bengal, on arrival at Bombay, shall in accordance with the "instructions" (copy of which will then be furnished to them) send their letters of appointment to the office of the Surgeon-General with the Government of India, by whom they will be at once forwarded to the Military Department. Thereon the officers will be gazetted as having come on a given date on Bengal establishment, and will be formally placed at the disposal of the Commander-in-Chief in India for military duty. Meanwhile, and in anticipation of this formal notification, the officers, in the absence of any order to the contrary, will proceed at once to Allahabad, and on arrival there, will report themselves to the Deputy Surgeon-General of that circle for military duty.

Thenceforward, and until the officer may be withdrawn for other employment, he will be under the authority of the Surgeon-General, Her Majesty's Forces, from whom he will receive all orders of His Excellency the Commander-in-Chief in India for his employment, postings, transfers, &c.

The withdrawal of an officer for civil employment will not be permitted until he has completed two years' actual military duty, and then only provided his services can be spared. Should the interests of the public service, however, very urgently demand his withdrawal before the completion of his two years' course of military duty, an exception may, under the orders of the Governor-General in Council be made, as a very rare and special case, in the above general rule.

2. All officers of the Indian medical service are, subject to the above restriction, eligible for civil duties; yet, however employed, they remain liable at any time to be recalled for military duty. Such recall can only be made by the Government of India in the Military Department. During the whole period of an officer's employment on any other than military duty under the Commander-in-Chief, and until he is formally replaced at His Excellency's disposal, he will be under the authority of the Surgeon-General with the Government of India or of the Local Government under which he may be serving.

3. A minimum establishment for the requirements of the army and for all other sanctioned appointments will always be maintained. This will include the prescribed margin for absentees on furlough or sick leave. Lists of the appointments controlled by the two Surgeon-Generals are annexed; but it will be understood that the army has the first claim on the medical service, and that any officer whose services are required with the army may be placed at the disposal of the Commander-in-Chief.

4. All applications for medical officers required for civil employment should be addressed by local Governments to the Government of India in the Home Department.

5. As the Surgeon-General with the Government of India is the actual administrative head of the Indian medical service, and should, therefore, have the means of keeping an accurate record of the services of all officers belonging to it, such returns and reports, including confidential reports, furlough statements, &c., as are considered necessary for this purpose by the Military Department will, as regards officers under the orders of the Commander-in-Chief, be furnished to the head of the department by the Surgeon-General, Her Majesty's Forces.

Application for furlough of officers under the Commander-in-Chief will be forwarded by the Surgeon-General, Her Majesty's Forces, through the Surgeon-General with the Government of India, so that all such applications may be dealt with for the service as a whole; and all such officers while on furlough or leave will remain on the list of the Surgeon-General, Her Majesty's Forces.

APPENDIX.—Lists of appointments referred to in paragraph 3.—Under Surgeon-General with the Government of India: All medical officers in civil employ; surgeon to His Excellency the Viceroy; principal medical storekeeper; medical storekeepers; medical officer, Lawrence Military Asylum, Sanawur. Under Surgeon-General, Her Majesty's Forces: Deputy Surgeons-General in military employ, 5; secretary to Surgeon-General, 1; surgeon to His Excellency the Commander-in-Chief, 1; garrison surgeons, 3; Sappers and Miners, 1; 19 Bengal Cavalry Regiments, 19; 45 Native Infantry Regiments, 45; 4 Goorkha Regiments, 4; Punjab Frontier Force, 17 (viz., 5 Cavalry—Guides 1, Sikh 4; 6 Infantry—Punjab Infantry 5, Goorkhas 1); Doaba outposts, 1; Central India Horse,[1] 2; Malwa Bheel Corps,[1] 1; Bhopal Battalion,[1] 1; Deolee Irregular Force,[2] 1; Erinpoora Irregular Force,[2] 1; Meywar Bheel Corps,[2] 1; Mhairwarra Battalion,[3] 1.

[1] Civil corps—Administered by Deputy Surgeon-General, Kamptee Circle of Madras Presidency.
[2] Civil corps—Will be administered by the Superintendent-General of Dispensaries, Rajputana.
[3] Under medical charge of the Civil Surgeon, Ajmere.

THE members of the medical profession of Portsmouth have presented a testimonial to Mr. G. Turner, late medical officer of health for the borough, on his leaving to fulfil a like position at Bishop Stortford, Herts. The subscription was limited to one guinea, and there were thirty-seven subscribers.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF GENU VALGUM.

To the Editor of THE LANCET.

SIR,—Mr. Parker objects to your report of his observations at the Royal Medical and Chirurgical Society on November 9th, and having made his corrections he discusses over again my communication to the Society. I must therefore ask you kindly to allow me space for a rejoinder.

Mr. Parker has somewhat misunderstood my paper. I will not, however, discuss it now; but will touch on three points of Mr. Parker's letter. First, as to the length of time required to carry out the treatment. Three casts were shown at the meeting. No. 1 was taken from a girl, sixteen years of age, in whom the inner malleolus was eleven inches away from the median line. In this case the tendon, the fascia, and the ligament were divided exactly seven weeks ago on Friday last; and she left London to return home last week with a straight and useful limb; such as she had never known before. I doubt if Mr. Parker has ever seen a worse case of genu valgum.

No. 3 was taken from a child, five years of age, in whom the inner malleolus was five inches removed from the middle line. This child was not operated on, but a splint was applied. This splint has been worn about a fortnight; and when I saw the child four days since the limb was straight, and it remained nearly straight when taken out of the splint. No force has been used, nor has there been pain. In which of these cases would Mr. Parker consider the treatment "inapplicable?" The former was sent up for osteotomy; and in the second it was suggested. Would either of these cases have been better for osteotomy? I regret that Mr. Parker cannot now see the first mentioned case. I shall be glad to show him the second if he wishes.

No. 2 was taken from a girl, nine years of age, on whom osteotomy had been performed some few months previously. The malleoli are nine inches apart.

Secondly, Mr. Parker seems to think that genu valgum depends on the length of the inner condyle, and that flat-foot follows knock-knee. On neither of these questions can I agree with him. Certainly genu valgum does not depend on the length of the inner condyle, and flat-foot does not, as a rule, follow knock-knee. The inner condyle may be four-tenths of an inch longer than the outer without occasioning knock-knee; and in the young child it is a matter of every-day experience that being flat-footed it gradually becomes knock-kneed.

Thirdly, I was unaware "that the greatest incentive to osteotomy has been the utter insufficiency of the older method." I confess myself unable to believe it, but, if it is true, doubtless more knowledge on the subject of treatment is needed.

It was said at the meeting on Tuesday by one whose surgical knowledge is beyond question, that the frequent application of osteotomy to genu valgum, as is now the fashion, is shameful. My own impression also is that osteotomy, as applied to the treatment of genu valgum, has been shamefully abused, and that it has become somewhat of a disgrace to British surgery.

I am, Sir, your obedient servant,

Grosvenor-street W., Nov. 22nd, 1880. B. E. BRODHURST.

To the Editor of THE LANCET.

SIR,—In a recent paper on the Treatment of Genu Valgum, read at the Royal Medical and Chirurgical Society, Mr. Brodhurst laid great stress upon the dangers of osteotomy as one of the reasons for discountenancing its employment for the relief of this deformity. Almost in the same lines he stated that the operation was becoming too common; that numbers of surgeons were performing it wholesale, and with some fatal cases; and that he understood that one gentleman had even done it over three hundred times. In the subsequent debate I ventured to express the hope that, in the interests of scientific accuracy, Mr. Brodhurst would tell us something more as to the experience of the gentleman he referred to; whether ont of his 300 cases any bad or fatal results had followed. This request of mine appears to have escaped the memory of Mr. Brodhurst during his reply; and as I am not sanguine as to his answering it in any way hereafter, I will ask you to allow me to answer it myself, circumstances now enabling me to do so.

This morning I received through Dr. Macewen's kindness a presentation of a copy of his book on Osteotomy, just published. Turning to the question of the "mortality" of the operation, I find that he himself has performed it on 330 patients, or 557 limbs, to the extent of 835 osteotomies. Of these 330 patients one died of pneumonia (contracted before operation), one of tubercular meningitis, and one of diphtheria; in one (owing to an accident independent of the operation) amputation had to be performed. In other words, not a single case died of the operation! What other surgical procedure can show such results?—even those we are accustomed to call the "minor operations." For my own part, though no advocate of indiscriminate osteotomy, I will in the face of such facts, and of others collected during an extensive reading of the subject, refuse to regard osteotomy as a dangerous undertaking, even when assured that it is by so distinguished a surgeon as Mr. Brodhurst. If anyone is to be listened to on a question of the kind, surely it should be the surgeon who, having performed hundreds of such operations, lays the results of 835 of them candidly, honestly, and fearlessly before the profession. These are hard facts, and worth more than all the vague expressions of distrust that have been uttered in any quarter up to the present.

Dr. Macewen's work also answers Mr. Savory's remarks in the same debate, that it was a "shame" and a "disgrace" that no osteotomist had up to the present published his results as to the ultimate benefit to the patient of the operation for genu valgum, as regards progression, &c. There were those present who ventured to think these remarks somewhat premature, and that probably it would be better to wait for observations on this point for some years after operation, than to draw deductions from a patient's powers only a few months after. However, Dr. Macewen answers these remarks, as also, strangely enough, those of his reviewer in your impression received to-night (*vide* THE LANCET, Nov. 20th, p. 817), who says that "the only results given in the book" are "from the point of view of recovery from the operation." His answer is, that afterwards "nine of them had walked from thirteen to sixteen miles at a stretch, six from seven to twelve, and three from three to six miles," &c.; and that "besides their personal appearance having been greatly enhanced, they had been enabled in many instances since their operation to engage in occupations from which their deformity previously excluded them." But this whole chapter is most interesting; what tenotomist could say more?

When we add to these osteotomies on 367 limbs, another 100 practised with "uniformly good result as far as ascertained" by other Scotch surgeons, of which Dr. Macewen speaks, and the other hundreds performed in England and abroad; and when we remember that, though attention has been called to the subject over and over again, those who have given time to the matter have only been able to tabulate some four or five recorded deaths (though I know of two unrecorded) as due to the operation, surely no one need ask us to believe that osteotomy is an essentially dangerous procedure. Apologising for my long letter,

I am, Sir, yours, &c.,

Harley-street, W., Nov. 19th, 1880. ARTHUR E. BARKER.

THE INFECTION OF PHTHISIS AND ITS BEARINGS UPON TREATMENT.

To the Editor of THE LANCET.

SIR,—In commenting on the important article on Infecton in Phthisis, by Dr. Reginald E. Thompson, Dr. Robert Lee remarks on the indications which the germ theory affords for the treatment of tubercular disease, and concludes by stating that "the question of atmospheric conditions takes precedence of others, when considering the subject of the treatment of phthisis pulmonalis." I agree with him in this expression of opinion, and, having for some time been engaged

in the study of the subject, venture to lay before your readers some observations thereon.

That a resemblance exists between the tubercular process and septic poisoning seems to be beyond doubt. This is seen in the clinical study of the thermometry of the two classes of disease. Various authors have recently directed attention to this fact, notably Professor Charcot of Paris and Dr. Waters of Liverpool. In his most recent contribution to the literature of the subject, the former remarks, "the thermic curves are not those of inflammatory action, but of putrid infection," and he goes on to show that "in the pyrexial form of phthisis, the evening exacerbation (of temperature) is due not to a pneumonic process, but to resorption of the softened material." Common phthisis is regarded by Dr. Clifford Allbutt as "cases of pure ulcer, these ulcers constantly being the seats of foul secretions of some kind or other, and producing chronic pyæmia." He also remarks on the peculiar susceptibility in some persons to septic influences in the lung.

Recent research seems to show that this septic poison is eminently contagious. As the result of experimental inquiries, Klebs believes that tuberculosis is an infectious disease of parasitic origin, induced by certain micro-organisms which invade the body and multiply in it, and that the expectation might be entertained of curing it by the employment of means which are calculated to annihilate these organisms. Schüller of Griefswald has proved that animals in which artificial tuberculosis has been induced by injection die, without exception, with the usual phthisical symptoms—viz., emaciation, loss of heat, and afterwards general miliary tuberculosis. Amongst others who have given the weight of their authority to the belief that tuberculosis is contagious are Mr. Simon and Dr. Greenfield; such contagion being frequently spread by the milk of high-class cows, which are very subject to the disease.

The interesting paper by Dr. Thompson, previously referred to, seems to show beyond doubt that pulmonary consumption may be propagated by direct infection from man to man. Dr. Murrell had previously directed attention to this fact, and in THE LANCET of May 22nd of the current year he records a clear case where a wife was infected by her husband. It is important to note that whilst the lower animals may communicate the contagion to man, man may in return infect the lower animals. In proof of this is the case recorded by Dr. Cullimore (*British Medical Journal*, May 22nd, 1880), where a strong, healthy dog, lapped up the sputum of a tuberculous man, and died in a short time of pulmonary phthisis.

With these considerations in view, the practical part of the question—namely, treatment—may be approached. Now the point arises whether all phthisical patients should be treated on the same broad basis, or whether there are varieties of the disease sufficiently distinct to render a method of treatment which might suit one form unavailing or prejudicial in another. The unity of the virus in the different pathological conditions grouped under the name of phthisis appears to have been fairly ascertained by the recent experimental researches of Cohnheim, who claims to have established that the poison of true tuberculosis is identical, not only with that met with in the other forms of phthisis, but also with that present in scrofulous glands. This, however, is scarcely borne out by the state of affairs at Quito, where, according to Domee, phthisis is rare, and yet various forms of scrofulous disease are so common as to impress a peculiar character on our surgery. But be this as it may, it seems to be generally accepted, both as a result of clinical observation and experimental pathology, that in phthisis pulmonalis we have to deal with a disease of a septic parasitic origin, presenting a variety of pathological features, and under certain conditions readily infectious. We have here a clear indication for the employment of antiseptics.

The beneficial results following the use of antiseptics in phthisis have been long noted. At the Social Science Congress held lately in this city, a discussion occurred on the cause of the increasing prevalence of consumption amongst the native Highlanders. The president of the section (Dr. Beddoe) was inclined to attribute it to the changes which had of late years taken place in the domestic arrangements of their homes, and notably to the substitution of modern fireplaces and fuel for the old peat fire in the centre of the apartment. Twenty years ago attention was directed to this same subject by Dr. Morgan (now physician to the Manchester Royal Infirmary), and in a very interesting communication to the *British and Foreign Medico-Chirurgical Review* he shows that the smoke of peat, by virtue of the antiseptic substances it contained, had a marked beneficial action on the lungs of those breathing it. These and other facts enable us to answer the question, Should the employment of the antiseptic be local or constitutional? My therapeutical experience leads me to believe that, as shown by Matthews Duncan to be the case in some examples of puerperal fever, it is more frequently a condition of sapræmia than pyæmia which obtains in phthisis—that the toxæmia is rather attributable to the chemical factors which putrefaction engenders than to the presence of micrococci in the tissues and blood. I therefore think that it is only by the local application of the antiseptic that good results can be obtained.

In applying this principle to practice, I have for the last year and a half been in the habit of using what might be called a naso-oral antiseptic respirator—i.e., a respirator which covers both the mouth and nose, and contains a volatile antiseptic, which is drawn into the lungs with each inspiration. This respirator is provided with inspiratory and expiratory valves, is not liable to get out of order, and is easily worn. I have treated several cases of phthisis with it with considerable success, and now subjoin brief notes of two cases. I select these as having been seen by other medical men than myself, and the first also as showing that a child may respire an atmosphere of pure creasote not only with impunity but with positive benefit.

CASE 1.—A. G——, female, aged seven, consulted me on Oct. 20th, 1879. She complained of cough, sputum occasionally tinged with blood, emaciation, and nocturnal sweatings. Had been getting worse for months. On physical examination there was rough, jerky respiration, with prolonged expiration at the left apex anteriorly; pulse small and soft, 106 (a few days subsequently it was 140) per minute. As she seemed to become worse under the ordinary treatment, on Dec. 4th she commenced to wear an antiseptic respirator charged with pure creasote. On Dec. 15th the results noted are—(1) increased appetite, (2) quieter nights, (3) less cough and vomiting, (4) slight fall in the pulse-rate, (5) still hot and feverish in the evenings. On Jan. 5th (still continuing to wear the respirator) she had apparently quite recovered. On Jan. 12th she was shown at the clinique of Professor Grainger Stewart in the Royal Infirmary; she then seemed all right. On Jan. 17th she ceased to wear the respirator, and returned to school. On Oct. 4th I met the mother of the patient in the street, when she informed me that her daughter had continued well ever since.

CASE 2.—This case occurred in the practice of the late Dr. Forbes, of West Newington-terrace, in this city, and but for his untimely death would have been recorded by himself. From Dr. Forbes's letter, now before me, regarding the case, I find that the patient, a male, aged twenty-five, sent for him in January last, complaining of general debility, shortness of breath, and loss of weight. On physical examination the right pulmonary apex was found to be affected (consolidated). The ordinary routine treatment was tried for some time, but without the slightest benefit. In February, on the recommendation of Professor Grainger Stewart, who saw the case in consultation, the use of the naso-oral respirator was commenced, charged with equal quantities of pure creasote and carbolic acid. Rapid improvement soon ensued, and, instead of being confined to bed, the patient was shortly able to leave for the Channel Islands. On July 6th, through the courtesy of Dr. Forbes, I was allowed to interview this patient. He was a very intelligent young man, and stated that, before commencing the use of the respirator, he was so ill that at the consultation the doctors told him "there was not much hope." He still (November) continues well.

I have experienced equally good results in similar cases in my own practice; these I purpose submitting to the profession on a future occasion. I have already considerably exceeded my original limits, and shall conclude by expressing my opinion that in the correct application of antiseptics to the treatment of phthisis we are on the proper track towards the solution of a problem which has for long been an *opprobrium medicinæ*.

I may mention that the respirators, as used by me, are made by Mr. Gardner, South Bridge, Edinburgh.

I am, Sir, yours obediently,

Edinburgh. G. HUNTER MACKENZIE, M.D.

THE CRISIS AT GUY'S HOSPITAL.

To the Editor of THE LANCET.

SIR,—A good deal of surprise has been expressed in many quarters at the fact of the staff of this hospital, notwithstanding the extraordinary treatment which they have received at the hands of the treasurer and the governors, still continue their connexion with the charity, and it is asked why the example set by Dr. Habershon and Mr. Cooper Forster has not been followed by all their late colleagues. Their hesitation to take this step we consider to be due chiefly to two motives, both of them extremely honourable to the members of the medical staff; but we fear there is danger of both of them being carried to excess, and so defeating the very ends they have in view. These motives are: First, a genuine regard for the welfare of the patients under their care; and, second, a fear of injuring the Medical School by hasty action.

There can, of course, be no doubt that if the physicians and surgeons were suddenly to resign in a body the result to the patients in the hospital would be disastrous in the extreme; for, even supposing that the treasurer was able to find qualified medical practitioners willing to take the vacant posts (which we think very improbable), they would certainly not be men of the eminence requisite for such an institution as Guy's Hospital, and it would be quite impossible to obtain substitutes of any kind at a day's notice. Moreover, the interests of the Medical School would suffer most severely from such a course of action, deprived as it would be of its lectures and of its practice in the wards; and much time must necessarily elapse before arrangements could be made for our attendance at other hospitals. We are, then, compelled to admit that anything like a sudden and universal resignation of the staff is out of the question; but it is, at the same time, equally clear that the present state of affairs cannot, in the interests of both patients and students, be allowed to continue. What, then, must be done? How are the difficulties embodied in the above objections to be surmounted? We, with great diffidence, would suggest a procedure somewhat as follows.

Although the medical staff would be wrong if they were suddenly to resign in a body, yet it seems to us that they would be perfectly justified in so doing, provided that they gave the governors due notice of their intention, say, a fortnight or three weeks. This interval would give the treasurer an opportunity for considering his position, and the governors of deliberating as to the course they should pursue. If they persisted in their present attitude, they would have time to make arrangements for the welfare of the patients, and to attempt the organisation of a fresh staff, though we hope the *esprit de corps* of the profession would prevent anyone from coming forward to take the vacated posts. If this were the case, the governors must either yield or close the hospital. If, on the contrary, it should be found possible to collect a new staff, we have already expressed our opinion that they would certainly not be men of the necessary ability and experience. We see then, that the governors would be reduced to three alternatives: either the existing obnoxious regulations must be repealed, or the hospital must be closed, or it must be worked by an inferior class of men. In either of the two latter cases—the appointment of incompetent men, or the cessation of a great medical charity such as Guy's—public opinion, already aroused, would demand a full inquiry into and a thorough sifting of the state of affairs which is at present a scandal to the whole medical profession, and this would undoubtedly result in the vindication of the authority of the medical over the nursing staff. Whether then the governors agree or refuse to yield, the final upshot must be the reinstatement of the original staff and the former *régime*. But the settlement of this point would necessarily occupy some time, during which the interests of the students might be detrimentally affected, and the interval we have mentioned should be employed by the Medical School in taking measures for securing its own safety in case the battle should be prolonged. Again and again we have been told that we have the wishes of all the London hospitals with us; now is the time to put this to the test, and we ask for their co-operation. We would suggest that a meeting should be convened of the authorities of all the London schools, and that they should discuss the possibility of making some arrangement for the temporary distribution of the Guy's students among the other hospitals, should the necessity for such action arise. Before the three weeks' notice had expired everything should be ready for emigration; and not only must everything be ready, but the emigration must, if matters are allowed to go far enough, really take place in solemn earnest. Surely some agreement could be come to by which we poor persecuted medicals should find a temporary home in the other hospitals of London. The need for it could only be temporary, for however long the strife might be protracted, it cannot be doubted that when the final struggle did take place we should be victorious. Would it not then be wise to precipitate the crisis instead of allowing the reputation of both hospital and school to be ruined by needless delay? We cannot see that anyone would be seriously injured if such a course were adopted; certainly, if any harm came to the patients, the treasurer alone will be responsible for it; the staff would have done all, and more than all, their duty in giving the notice we advocate. The school could not be permanently injured; individuals, no doubt, would suffer some slight inconvenience through giving up appointments for a time, but we apprehend they would be content to do so *pro bono publico*. The very fact that the hospital cannot be satisfactorily worked without the assistance of the school would necessitate its speedy reinstallation.

The plan we have proposed may not be either new or original, and it may not be the best that can be imagined, but we think it to be at any rate worth consideration, and we therefore respectfully ask for a small space in your valuable paper. If it evokes criticism it will have served its purpose.

We are, Sir, your obedient servants,

Guy's Hospital, Nov. 23rd, 1880. TWO STUDENTS.

RECORD OF A NIGHT WITH THE CHARGE OF A DELIRIUM TREMENS PATIENT.

To the Editor of THE LANCET.

SIR,—Perhaps you may deem the following particulars worthy a place in your columns.

A publican's widow, aged forty-five, had a first attack of delirium tremens in Nov. 1879 (three months after her husband, who had lived for years in the tropics, had died of the same disease). Her second attack happened in August, 1880, on the 24th of which month she had premonitory symptoms and was prescribed essence of beef and milk freely; also one drachm of tincture of opium, in divided doses, with a little quinine and sulphuric ether. Bowels freely open. On the night of the 26th she had two drachms of tincture of opium, in divided doses; and on the 27th, ten minims of solution of opium, every three hours, with quinine and tincture of bark. By this evening she had been sleepless for three days and two nights. The usual delirium was now as high as possible, and she was engaged incessantly gathering up the bedclothes. At 10.15 P.M. she unwillingly took half a drachm of chloral, in seven or eight minutes after which she vomited some curdled milk and watery fluid. A mustard cloth was then put over the region of the stomach, and ten minutes afterwards another half drachm of chloral was given in an ounce of sugar water, with ten drops of ginger-brandy, her favourite cordial, to flavour the dose. At 11 o'clock fifteen grains more in a similar manner. At 11.30 P.M. another fifteen grains, making one drachm or more retained altogether. After this the patient was more quiet, but still excited. The excitement increasing, I injected into the arm nearly one-third of a grain of morphia. Ten minutes after this she stretched out her arms saying, she "felt stiff in the head and sinking;" face drawn, rigid, and having an intensely anxious look (the heart had been intermitting after every second beat; pulse very weak at wrist; heart's beat easily becoming very rapid with the movements of the patient). I then had her head drawn over the bedside, with a foot-bath on the floor beneath, and poured about half a ewerful of water over the forehead. While doing this she once or twice said, "That will do." Presently she uttered a sharp sudden cry, and gave two or three spasmodic movements of the body; the head rotated to the right, and at the same moment I thought she dropped with lightning speed into a catastrophe of sleep, which after a moment seemed to end in the flaccidity of death, one or two gasps preceding this apparent end. Three

women in the room, the sister, a servant, and a nurse, gave a cry and rushed to the door, uttering words relating to the dead or death. The sister came back, and, with clenched hands and body bent over the foot of the bed, besought my opinion. The men came upstairs. For a few seconds I halted between the words "sleep" and "death." I felt no movement of the heart, no pulse at the wrist. The body was motionless, the head resting on my arm. After a few moments of breathless suspense, listening over the præcordia, I heard the flickering heart. Then the wrist-pulse came. I then restored the patient to her old position in bed, and in a few seconds the excited movements recommenced. But in a few more moments she fell suddenly into a quiet, deep slumber, and the wrist pulse became regular, fairly full, and about 70. After watching two or three minutes I left her, and went downstairs to take some bread-and-butter and cocoa. After she had slept for about fifteen minutes I was fetched to her. She had awoke, and was vomiting. Her restlessness and excitement became as bad as before. I had a mustard plaster put over the epigastrium, and in about a quarter of an hour administered fifteen grains of chloral, as before, and in about half an hour after another fifteen grains. Feeling the extreme importance of securing sleep of some duration promptly, I resorted to the water once more, and poured the contents of the full water-ewer three or four times over the forehead, allowing it to flow down her streaming hair into the bath. This time the treatment was most acceptable to the patient, and in the midst of her mutterings about water-pumps, rain, and water-rates, said, "Hold the jug higher, doctor." She was moved into her old position, and I left her quieter, but muttering and talking while she gathered up the bedclothes. I went myself to bed in a room over hers, and lay listening to the humdrum of her talk as it came through the floor. At 5.15 A.M. I went down, and finding she had not slept, gave her thirty grains more chloral, as before, and another jug or two of water fifteen minutes afterwards; after a further fifteen minutes, thirty grains more of chloral. Feeling I should wait awhile before doing more, I went upstairs again to bed, directing that I was to be called if anything happened to give additional uneasiness. She was much quieter, for I could hear now no sounds of her voice. At 6.45 there was a tap at the door to tell me she looked very strange, turning her eyes up; and in another minute, as I was preparing to go down, a message came that she had fallen asleep. I was content, and tried to sleep myself. At 9.30 I looked into the room. She was still asleep. I advanced quietly to the bedside, and moved my hand over the eyes to disturb three or four flies walking over the eyelids, when she at once opened her eyes, and, in answer to my question, told me she was awoke by my walking across the room. I directed her to have a cup of tea and a piece of bread-and-butter, which she drank and ate. She slept, on and off, through the day, and was well again.

The catastrophe in the night remined me of a startling event late one Saturday evening last winter. I was driving home along a country road and had to turn a sharp corner when I came upon a public house which was closing. I suddenly saw in the middle of the road a man and a woman talking. I halloed and drew in my horse, but with the result of just tapping the woman with the end of the shaft a spent blow, the result being that she fell flat on the road like a skittle. I sprang out of the trap and, on bending over her, received a volley of abuse from the tipsy man, and at the same time heard the woman *moring asleep*—sleep, the work of a moment, and following instantly the shock of her fall produced by only a touch.

I am, Sir, yours truly,

Kenley, Caterham Valley. E. DIVER, M.D.

PARIS.

(*From our own Correspondent.*)

A FACT of great importance, and which had been discovered accidentally, was related by Dr. Brown-Séquard at a recent meeting of the Société de Biologie. Intending to kill a guinea-pig, the subject of previous experiment, the animal was placed under a glass globe with a certain quantity of ether. Anæsthesia progressing but slowly, some chloroform was poured on a sponge, which was inserted in the summit of the globe in such a position that some drops fell between the guinea-pig's neck and shoulder—that is to say, upon the epileptogenic region, when an attack of epilepsy immediately took place. The experiment which had thus been accidentally suggested was repeated a large number of times, and it was found that no longer epilepsy, but a deep anæsthesia, followed the application of chloroform. The same thing was afterwards observed in cats, dogs, and rabbits. As the anæsthesia passes off, the animal gives evidence of returning nervous and muscular sensibility; there are tremors in the four limbs. Then it tries to get up, but presents either hemiplegic or paraplegic symptoms, such as were noticed before anæsthesia took place; occasionally there is delirium, and when consciousness has returned there is a considerable degree of hyperæsthesia, and may be inflammation of the skin if the dose of chloroform has been strong. When the experiment ends fatally, death may occur either suddenly or less quickly.

In this case a series of symptoms—such as convulsions, epileptiform attacks, diminution of reflex action on the side of the application, in the cat myosis, and mydriasis in the dog—precede the slowing of the respiration, which sometimes appears to be superior thoracic, the diaphragm being paralysed, or contracting only on one side. Finally, the temperature falls, and the animal dies suddenly, and without convulsions, from syncope. Electric exploration shows that nervous excitability is strangely modified. A weak galvanic current calls forth a response, and this excitability often lasts four times longer than after other modes of death. In two dogs, and in several guinea-pigs, the phrenic nerve on one side was found to have entirely lost its excitability, and the corresponding half of the diaphragm was less irritable than the other—this on the opposite side to the application of chloroform. Dr. Brown-Séquard explains these phenomena by the theory of inhibition, arrest of function by distant nerve action, and particularly by that inhibition which he has described as the *arrêt des échanges*. The experiments carried on at the Collége de France will give an additional interest to the lectures which commence, as usual, about this time.

INDIA.

(*From an occasional Correspondent.*)

SOME months since, in a previous letter, I noticed a letter in the *Pioneer*, by "Scrutator," tracing the frequent epidemics of cholera among the Assam coolies to the faulty bathing arrangements and water-supply on board the steamers. Fortunately, the letter attracted the attention of the Lieutenant-Governor, who ordered certain suggested improvements to be adopted. "Scrutator," in a second letter, June 3rd, 1880, now writes: "The water-supply on board the steamers is now nearly perfect. Water is pumped up fresh out of the river into a long closed receptacle, from which the coolies draw it in any quantity they like through strong substantial taps . . . . The water-supply of the Calcutta depôts is so radically bad that it will be impossible to make it altogether satisfactory until the principal water-pipes are extended to Sealdah, where the depôts are situated. Still great improvements have been made; the tanks have been fenced off so as to be quite inaccessible to the coolies." A sufficient time has now elapsed to admit of a tolerably correct opinion being formed of the effect of these improvements, which, however, it must still be remembered, are incomplete. Since May 1st, 1879, when the new arrangements on board the steamers got into fair working order, 5124 coolies were carried from Goalundo with 39 deaths, and 4534 from Dhubri, with 17 deaths from all causes. These figures give a percentage mortality for the Goalundo coolies of 0·76, and for the Dhubri coolies of 0·37. The corresponding percentages in 1878 and 1879 for the two classes respectively were 2·70 and 3·78 for Goalundo, and 1·72 and 2·43 for Dhubri coolies. The mean of the previous five years for Goalundo was 2·5, and that of the four years of the existence of the Dhubri depôts 1·56 per cent. It must here be noted that the remarkable reduction shown by these figures was effected in a year of ex-

traordinary cholera mortality in the district bordering on the Brahmaputra. But now the question arises, "What caused the reduction?" I would say that as the conditions of last year were identical in all respects with those of previous years, except in the matter of water-supply, the changes in the water-supply caused the decrease in the mortality from cholera. The testimony of two medical officers who have had many years' experience of coolie emigration is very decidedly to the same effect. Dr. E. G. Russell, the Civil Surgeon, Gauhati, writes: "Since these minute and detailed arrangements for ensuring an untainted supply of water have been introduced, and *de facto* carried out in their entirety, bowel disorders have almost disappeared as a cause of mortality among imported coolies. When it is remembered that previous to the introduction of these water arrangements the short trip of a few days (from twelve to eighteen, according to the port of disembarkation) was, in many instances, attended with decimation or, in certain instances, worse, the remarkable recent diminution, or one may almost say suppression, of the mortality is a very startling fact." Dr. Slane, the Civil Surgeon of Dhubri, writes: "I do not think there can be any doubt to what the freedom from cholera on the steamers is attributable. The only thing in which a radical change has been effected is the water-supply, and by a similar gradation the disease has abated and almost disappeared. In presence of the facts furnished by the great experiment which has been going on for nearly twenty years on the Brahmaputra steamers, I think there can no longer be a doubt that water is the main channel by which cholera is spread. Having studied the water-supply arrangements in many stations and in various parts of the country, my deliberate opinion is, that ninety-nine out of every hundred cases of cholera are due to bad water, and about the same proportion of the deaths caused by the allied disease (typhoid fever) are due to the same cause. There is a great variety in the defects of the water-supply of different stations; but there are very few stations indeed in which the supply is not extremely bad. The bhisti,[1] the gualla,[2] and the dhobi[3] are the main channels by which Europeans in India become infected with cholera and typhoid fever."

Obituary.

MR. HENRY BATEMAN, F.R.C.S. ENG.

ON Sunday last Mr. Bateman, of Islington, one of the best-known and most marked practitioners in London, died at the goodly age of seventy-four years. Mr. Bateman's history, as that of one of the most prominent of the older class of practitioners, is of interest. He was born on September 30th, 1806, at Burton-upon-Trent, and educated at the Burton Grammar School. At the age of fourteen years he was apprenticed to Mr. Septimus Allen of Burton for five years. In October, 1825, he came to London, and began the study of medicine at St. Bartholomew's Hospital, an institution for which he always retained a great respect. Amongst his fellow students was Professor Owen, with whom he shared his first dissections. He attended the lectures of Mr. Abernethy. The office of Librarian, an appointment then given to deserving students, was given to Mr. Bateman. From September, 1826, to September, 1828, he acted as assistant to Mr. Jones of Henley-in-Arden. In October of the year 1828 he became a Licentiate of the Society of Apothecaries, and in January, 1829, a member of the Royal College of Surgeons, of which, in 1855, he was made a Fellow. Through 1829 he continued his hospital studies, and specially attended the Eye Infirmary, Moorfields, for three months. In this year he also entered the Ecole de Médecin, Paris, and attended at the Hôtel Dieu the lectures of the celebrated Dupuytren. In January, 1830, he was made surgeon to the Islington Dispensary, and commenced practice on his own account in the same year. He was fond of reverting to the humble beginnings of his large practice, and the modest but ever-increasing annual receipts. In 1832, during the epidemic of Asiatic cholera, he was appointed surgeon to the Cholera Hospital, River-lane, Islington, and, after wisely making his will, made post-mortem examinations of every case that died under his care. He remained surgeon to the Islington Dispensary more than three years, and became senior surgeon to the same at twenty-four years of age. He resigned the appointment when he married, and was made consulting surgeon. He then began his well-known practice of seeing patients gratuitously. For eight years he saw them so daily, and subsequently, down to a few years ago, three times weekly, beginning at the early hour of six, and in summer mornings before this, and closing the door of the room for this purpose at the foot of his garden with severe punctuality at nine. It was common for him to see on these mornings from 50 to 100 people, who preserved his prescriptions with a reverence that testified to their utility.

The above mere history implies a good deal of character, thoroughness of study, love of work, and early rising. Before most men had got their breakfast Mr. Bateman had cleared off his gratuitous patients, and was hard at work in his private consulting room, which was seldom empty, till he went on his round of daily medical duties, from which nothing could divert him, unless something he could do for his beloved church. He was a most devoted believer in the doctrines of Swedenborg, and one of the mainstays of the New Church in the metropolis. Until a comparatively recent period he used to preach once every Sunday in the New Church, Devonshire-street, Islington, and as he had to get up at five o'clock on other mornings to see his gratuitous patients, he had often to get up little later on Sunday mornings to write his sermon. He was a hard-working man, not because he was constitutionally stronger than others, but from a strong love of work and sense of duty, stimulated, perhaps, by a large family, who have deeply to feel his loss. Not the least lesson in Mr. Bateman's history is the fact that he was not constitutionally strong, and temperate almost to teetotalism. In his early practice, in three Augusts running, he had an attack of hæmoptysis, compelling him to the habit of a fortnightly summer holiday, which he took as religiously as Sir Henry Holland took his two months. In middle life his heart became weak, but by slight rest and a daily dose of tincture of acetate of iron at dinner, it regained power enough to enable him to complete fifty years of practice. Few men in general practice in London have been more called into consultation than Mr. Bateman was, no case coming amiss to him, whether surgical, medical, or obstetric. Such readiness to help brought practitioners and patients to him in all emergencies, from parts far remote from the immediate sphere of his own practice. Notwithstanding the strong love of work and sense of duty which dominated Mr. Bateman, he could not have done what he did but for two habits—one, early rising, to which we have already referred; the other the steady refusal to accept social engagements. He declined dining out, even with his own family, and the only exception which he admitted was to dine at the College dinner every second year.

Such briefly, but very imperfectly, is the history of Mr. Bateman's character and work. After fifty years of such work a man may be held to have served his generation well and to have set a splendid example to younger men. But when he disappears he does so conspicuously, and Islington practitioners will long continue to miss his characteristic figure, his bright face, his animated and intellectual conversation, and his hopeful and sanguine views of disease. In his last illness he was attended by his son, Mr. Alfred G. Bateman, and his friend, Dr. Glover, with the kind occasional advice and service of Mr. Gowland, Sir James Paget, and Mr. Christopher Heath. His illness was long and very trying, but his faith was equal to it, and he suffered, as he had laboured, "in cheerful godliness."

DR. ALFRED HUDSON.

IT is with great regret that we have to announce the death of Dr. Alfred Hudson, Senior Physician in Ireland to the Queen. Dr. Hudson was born in 1808 at West Bromwich; he was the son of the Rev. John Hudson, a respected minister of the Congregational Church there for forty years. After studying in London for some time, he went to Trinity College in 1828, and became a most ardent pupil of the great Irish School of Physicians. Like his eminent Irish teachers, he studied fevers and wrote on them. He was also the author of an article on Typhoid Pneumonia. Like Graves, Stokes, and Corrigan in Ireland, and like Alison and

[1] Water-carrier. [2] Milkman. [3] Washerman.

Christison in Scotland, he distinguished himself by the consideration of the great human and social bearings of the national epidemics of fever—a consideration which has its fruits now in the greatly diminished prevalence of typhus in both these divisions of the kingdom. Dr. Hudson was a good instance of a man attaining character and experience as a country practitioner, and then being called, as it were by general judgment, to a higher and metropolitan position, which he fully sustained by the courtesy of his manners and the accomplishment of his professional mind. When Dr. Stokes died, Dr. Hudson was appointed both to the Physicianship to the Queen and to the Crown appointment for Ireland in the General Medical Council. Here he took no active part. We do not remember his making one speech in the Council from the time of his appointment in 1877. His resignation took place a few days ago.

GUY'S HOSPITAL.

AT a well-attended meeting of the Governors of Guy's Hospital, held on Thursday afternoon, the resignations of Dr. Habershon and Mr. Cooper Forster were accepted, and Dr. Hilton Fagge and Mr. Davies-Colley were elected respectively to the posts of physician and surgeon. The junior vacancies were not filled up.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the required examination for the diploma, were duly admitted Members of the College at a meeting of the Court of Examiners on the 18th inst.:—

Appleford, Stephen Herbert, Champion-grove.
Baird, Andrew, Plymouth.
Campbell, Henry William, Claverton-street, S.W.
Chisholm, William, Goulburn, New South Wales.
Cockell, Edward Seaton, Hackney.
Cooper, Richard Gilpin, Southport.
Day, Thomas Montagu, Harlow, Essex.
Fielding, Edward, Rochdale.
Gabriel, Joshua Samuel, Ceylon.
Galpin, George Luck, Graham's Town, Cape of Good Hope.
Griffiths, Ernest Edward, Barnstaple.
Lawrence, Joseph Henry, Frome.
McCulloch, James, Swansea.
Otway, Alfred Carrol, Kennington-park-road.
Pasteur, William, Stratton-street, Piccadilly.
Pickthorn, Thomas Russel, L.S.A., South Kensington.
Pound, Francis Joseph, L.S.A., Odiham, Hants.
Renner, William, Quittah, Africa.
Stead, Geoffrey, Shrewsbury.
Thistle, Francis Thomas, Ashburton, Devon.
Watkins, Christopher James, Mornington-road.

Of the 82 candidates examined during last week, 52 passed to the satisfaction of the Court, and obtained their diplomas; 6 passed in Surgery, and when qualified in Medicine will be admitted Members; the remaining 24 failed to reach the required standard, and were referred for six months' further professional study. Four candidates who had passed in Surgery at previous examinations, having subsequently obtained a medical degree or licence recognised by the College, were also admitted Members.

The following gentlemen passed the Primary Examination in Anatomy and Physiology for the Fellowship of the College at meetings of the Board of Examiners on Tuesday and Wednesday last.:—

Messrs. Edward S. Bishop, Owens College, Manchester; John F. Bullar, Cambridge and St. Bartholomew's Hospital; Percy Warner, Guy's Hospital; Arthur R. Edwards, King's College; Ernest G Colville, St. Bartholomew's Hospital; Charles Plant, Owens College, Manchester; Francis H. Weekes, St. Thomas's Hospital; James E. Square, St. Bartholomew's Hospital; J. Hutchinson Russell, London Hospital; and William E. Hoyle, Oxford and St. Bartholomew's Hospital.

Of the 22 candidates examined on the above-mentioned days, 12 failed to satisfy the Board, and were referred for six months' further anatomical and physiological study.

COLLEGE OF PHYSICIANS IN IRELAND.—During the November examinations the following obtained the licences in Medicine and Midwifery of the College:—

MEDICINE.—Frederick Wm. Exham, James Barry Gibbons, Clement Hadley, Joseph Patrick Kealy, Wm. Henry Christopher Macartney, William Watson Pike, John Ryan, Herbert Skipworth, Frederick Charles Stevenson, Samuel Malenoir Thompson, Richard Benson Warren.

MIDWIFERY.—James Barry Gibbons, Clement Hadley, Wm. Henry Macartney, William Watson Pike, Herbert Skipworth, Frederick Charles Stevenson, Richard Benson Warren.

The undermentioned Licentiates have been admitted Members:—

John David Hillis, Charles Benjamin Mosse, Arthur Herbert Orpen, Thomas Henry Pickering, Thomas Purcell.

DR. WILLIAM JONES has been re-elected Mayor of Ruthin for the ensuing year.

MR. ROBERT S. HAYES of Oberstown Hill, Naas, has been appointed to the Commission of the Peace for the County Kildare.

THE committee of the Chelmsford Dispensary and Infirmary contemplate the erection of new buildings for the charity. Towards the expenses of the enterprise £1375 has been raised.

AT a late meeting of the Stepney Board of Guardians it was resolved that instead of paying their vaccination officer £65 per annum as heretofore, a payment of 1s. for each certificate of successful vaccination should be made.

DR. BURGES, of Frampton, has been presented by the inhabitants of the town with a purse of fifty guineas, and an address expressive of their regret that the ill-health of the doctor renders necessary his departure from the neighbourhood.

A TESTIMONIAL, consisting of a handsome tea and coffee service and a purse of 105 guineas, has been presented to J. E. M. Williams, M.R.C.S. Eng., of Whitstable. The subscribers, numbering 500, desired in this way to express their appreciation of the worth of the recipient and the esteem in which he and his professional services are held by his fellow citizens.

ON Tuesday evening, Nov. 16th, the members of the Provident Dispensary attached to the works of Messrs. Tangye Brothers, Cornwall Works, Soho, Birmingham, presented their late medical officer, Cordley Bradford, L.R.C.P. Lond., with a beautifully illuminated address and a gold watch of the value of £25, as a token of the respect and esteem in which he is held by them.

THE guardians of the North Dublin Union have recently adopted a resolution to the effect that a dispensary should be erected on the workhouse grounds at a cost of £1200, and that a sum of £2000 be offered to the trustees of the Carmichael School of Medicine for their premises on the north side of the city as being admirably suited for the purposes of an additional dispensary.

THE CASE OF DISTIN.—On the 21st the Mayor of Bristol received a letter from the Home Secretary stating that he had caused a medical inquiry to be made into the former history and present condition of William Joseph Distin. He could find in the report which was made no grounds on which he could advise the Crown to interfere with the execution of the sentence of the law, which has accordingly been carried out.

THE BROWN INSTITUTION.—The annual course of five lectures in connexion with the Brown Institution will be delivered by Dr. W. S. Greenfield, Professor-Superintendent, in the theatre of the University of London, on Dec. 13th, 15th, 17th, 20th, and 22nd, at 5·30 P.M. Subject: "Further Investigations on Anthrax and Allied Diseases in Man and Animals." Microscopic specimens will be exhibited on Dec. 22nd from 4·30 P.M.

BIOLOGICAL ASSOCIATION, TRINITY COLL., DUBLIN. The following officers have been elected for the ensuing session:—President: Thomas E. Little. Vice-Presidents: Samuel Haughton, E. Percival Wright, Edw. H. Bennett, Edw. B. Sinclair, Knt., Henry Macintosh, John M. Purser, B. W. Richardson, James Little, Walter G. Smith, G. Pim, Alexander Macalister, John Barton, Charles B. Ball, G. P. Nugent, W. M'D. Wright.

THE Clerk of the Peace for Lancashire has received from the Privy Council the report of the Special Commissioner sent down to inquire into the cattle plague. It states that many outbreaks are owing to want of early information of the existence of the disease, and of early isolation in cases of suspected and infected animals. Periodical examination of cattle on infected premises, and the isolation of suspected animals, are recommended.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.—At the annual meeting of the Aberdeen Medico-Chirurgical Society held on the 18th inst., the following office-bearers were elected for the year:—President, Dr. James Marshall; secretary and treasurer, Dr. James Rodger; librarian, William Fraser, Esq., surgeon; Council: Drs. Beveridge, R. Jamieson, H. Jackson, Charles Crombie, and William Fraser; representatives to the North of Scotland Medical Association, the president and secretary (*ex-officio*), Dr. R. J. Garden, and Dr. J. C. O. Will (elected).

BEQUESTS AND DONATIONS TO MEDICAL CHARITIES. Mr. James Seaton, of Manchester, bequeathed £1000 to Owens College. Mr. William Meyerstein, late of Love-lane, Aldermanbury, bequeathed £100 to the German Hospital, Dalston. Mr. John Gould, late of Didsbury, bequeathed to the Manchester Royal Infirmary, Barnes' Convalescent Hospital, and St. Mary's Lying-in Institution, £500 each; to the Salford and Pendleton Royal Hospital and Dispensary, and the Manchester Royal Eye Hospital, £200 each; to the Manchester Institution for Diseases of the Ear and the Stockport Infirmary, £100 each. Mrs. Bushell has left £50 to the Society for Providing Nurses for the Sick Poor, Belfast. Lord Ashtown has bequeathed £100 to the Hospital for Incurables, Dublin.

VACCINATION GRANTS.—The following gentlemen have received the Government grant for the successful vaccination in their respective districts:—Dr. C. E. Ellis, Attleborough, £12 7*s.* (fourth time). Mr. T. H. B. Rodwell, No. 2 district, Loddon and Clavering Union, £7 4*s.* (third time). Dr. Hurley, Louth Union, £7 2*s.* (second time). Mr. Burroughs, Frome Union, £4 15*s.* 6*d.* Mr. J. A. Bright, Glastonbury (fourth time). Mr. A. J. Mackintosh, Downham Union, Norfolk, £12 3*s.* (seventh time). Mr. G. Pound, Odiham district of the Hartley Wintney Union (sixth time). Mr. G. K. Sproul, Rook-lane House, Frome (third time). Dr. J. S. Walker, Bucknall district of Stoke-upon-Trent, has also received a grant for the efficiency of the vaccination in his district.

SEAMEN'S HOSPITAL, GREENWICH.—The following shipowners have substantially testified their determination to encourage the Seamen's Provident Fund of the Dreadnought Hospital, at Greenwich, by giving donations of £100 each, in addition to their usual annual subscriptions:—Messrs. Donald Currie and Co., Carlyle Brothers and Co. (Ducal Line), Henderson Brothers (Anchor Line), Alfred Holt (Ocean Steamship Company), George Smith and Sons (City Line), and Thomas Wilson and Sons. The Committee of the Seamen's Hospital are in need of additional funds to enable them to meet the expenditure of the current year.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning, at the latest.*

HARNEY, R. W., L.K.Q.C.P.I., L.M., L.R.C.S.Ed., has been appointed House-Surgeon and Dispenser to the Tiverton Infirmary, Devon.

BENNETT, STORER, L.R.C.P.L., M.R.C.S.E., L.D.S.E., has been appointed Assistant Dental Surgeon to the Dental Hospital of London.

BRAY, F. T., L.K.Q.C.P.I., has been appointed Medical Officer and Medical Officer of Health to the Rathangan Dispensary District, vice Watson, resigned.

BRIGHT, J. A., M.R.C.S.E., L.S.A.L., has been appointed Examiner of Army and Militia Recruits for Glastonbury and its neighbourhood.

COLLINS, Mr. J. H., has been appointed Public Analyst for Falmouth. Remuneration by fees.

COTTER, J., M.D., has been appointed House-Surgeon and Apothecary to the Cork North Infirmary, vice Corby, resigned.

DENHAM, J. S., M.D., L.F.P.S.G., M.R.C.S.E., has been appointed Medical Officer to the Westoe District of the South Shields Union.

DUKE, A., M.K.Q.C.P.I., L.R.C.S.I., has been appointed Gynæcologist to Steevens' Hospital, Dublin.

EDMUNDS, W., M.D., F.R.C.S.E., has been appointed Resident Medical Officer to the Paying Patients' Department of St. Thomas's Hospital. £400 per annum, with residence.

FOX, T. C., M.B., M.R.C.S.E., has been appointed a Physician to the Victoria Hospital for Sick Children, vice Irvine, deceased.

FRAZER, D. M., M.B., has been appointed Assistant Medical Officer to the Metropolitan Fever Hospital.

GULLIVER, G., M.D., has been appointed Resident Medical Officer to St. Thomas's Hospital, vice Sharkey, resigned.

HAMMOND, G., L.D.S.R.C.S., has been appointed Dental Surgeon to the Western General Dispensary, Birmingham.

MCDERMOTT, P., L.R.C.S.I., has been appointed House-Surgeon to St. Michael's Hospital, Kingstown.

MACGREGOR, D., M.D., has been appointed Medical Officer to the Denby District of the Penistone Union.

MARTIN, J. M. H., M.D., M.R.C.S.E., has been appointed Medical Officer to the Third District of the Fulham Union.

O'MEARA, J. B. J., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer of Health to the Sutton Bridge Urban Sanitary Authority. 10*s.* 6*d.* per case.

POPPLEWELL, T. W., M.R.C.S.E., has been appointed Medical Officer to the Wadhurst District of the Ticehurst Union, vice Harland.

REDWOOD, T., Ph.D., has been reappointed Public Analyst for one year for that part of Middlesex beyond the limits of the Metropolis.

SMYTH, A. C. B., L.R.C.P.Ed., has been appointed House-Surgeon to the Brighton and Hove Lying-in Institution, vice Blaker, resigned.

SPENCE, J. B., M.D., Assistant Medical Officer, Earlswood Asylum, has been appointed Medical Superintendent of the Staffordshire Asylum at Burntwood, near Lichfield, vice R. A. Davis, M.D., resigned.

STRICKLAND, A. W., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the Kidsgrove District of the Wolstanton and Burslem Union.

WATT, G., M.D., C.M., has been appointed Medical Officer to the Aberdeen Dispensary, vice Garden, resigned.

WATTS, T. F., M.B., C.M., has been appointed Assistant-Surgeon to Her Majesty's Convict Prison at Dartmoor.

WHITTERON, J., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer of Health to the North Bierley Urban Sanitary Authority. £70 per annum.

YOUNG, T. M., jun., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to the South Shields District of the South Shields Union.

Births, Marriages, and Deaths.

BIRTHS.

BARROW.—On the 19th inst., at Herbert-terrace, Herbert-road, Shooter's-hill, the wife of H. J. Waller Barrow, Surgeon, Army Medical Department, of a daughter.

HOOD.—On the 21st inst., at Green-street, Park-lane, the wife of D. W. Charles Hood, M.D., of a daughter.

LAWTON.—On the 22nd inst., at Poole, the wife of Herbert A. Lawton, L.R.C.P.L., of a son.

O'BRIEN.—On the 19th inst., at Cotehele-terrace, Stoke, Devonport, the wife of Henry J. O'Brien, Surgeon-Major, Army Medical Department, of a son.

WARD.—On the 22nd inst., the wife of J. Bywater Ward, M.D., Warneford Asylum, Oxford, of a son.

MARRIAGES.

CLARK—HALLAM.—On the 16th inst., at St. George's Church, Newcastle-under-Lyme, by the Rev. Richard Ward, B.A., Vicar, John George Clark, M.R.C.S.E., of 18, Colville-road, Notting-hill, W., to Fanny, second surviving daughter of the late John Hallam, J.P., of Newcastle-under-Lyme.

FINEGAN—KELLY.—On the 16th inst., at Curraha Roman Catholic Church, by the Rev. Joseph Wheeler, John S. P. Finegan, L.K.Q.C.P.I., L.R.C.S.I., of Addison Lodge, Glasnevin, to Ellen, daughter of James Kelly, Esq., of Creakenstown, co. Meath.

DEATHS.

BATEMAN.—On the 21st inst., at The Chestnuts, Canonbury-lane, London, after a long and painful illness, Henry Bateman, F.R.C.S.E., aged 74.

BRYDEN.—On the 18th inst., at Upper Norwood, James Lumsdaine Bryden, M.D., Surgeon-Major, H.I.M.S., aged 47.

HUDSON.—On the 19th inst., at his residence, Lowville, Merrion, County Dublin, Alfred Hudson, M.D., aged 72.

MURTAGH.—On the 17th inst., at Kingstown, Ireland, John Murtagh, Esq., M.D. (half-pay), 6th Foot, aged 82.

PHILPS.—On the 1st inst., at Piquetberg, Cape Colony, Vincent Philps, J.P. for Piquetberg, M.R.C.S.E., only son of Mrs. Emma Philps, of Sparrows Herne, Bushey, late of Berkhamsted, aged 28.

QUIN.—On the 24th inst., at his residence, Queen Anne's Mansion, Westminster, S.W., Frederick Hervey Foster Quin, M.D., in his 79th year.

SIMPSON.—On the 18th inst., at Thanet House, Bassett, Southampton, Thomas Simpson, M.R.C.S.E., aged 75.

WILSON.—On the 19th inst., suddenly, at Middle-street, Brighton, from heart disease, William John Wilson, L.R.C.P., of Clay Cross, aged 46.

N.B.—*A fee of 5*s. *is charged for the insertion of Notices of Births, Marriages, and Deaths.*

THE BRADLEY MEMORIAL FUND.

At a meeting held on the 23rd instant, in the Old Town Hall, King-street, Manchester, Mr. EDWARD LUND, F.R.C.S., in the chair, it was resolved—"That this meeting of the friends who had reason to admire the character and public life of the late Mr. SAMUEL MESSENGER BRADLEY, F.R.C.S., desires in some suitable manner to perpetuate his memory; and, in order to secure this object, has decided to establish a Scholarship in Clinical Surgery in connexion with the Manchester Royal Infirmary."

The following gentlemen were appointed an Executive Committee to carry the above resolution into effect:—

CHARLES J. CULLINGWORTH, M.R.C.P.
FRANK GLOVER, Esq.
JOHN M. HETHERINGTON, Esq.
CAMPBELL HULTON, Esq.
DANIEL J. LEECH, M.D.
EDWARD LUND, F.R.C.S.
GEORGE H. MIDWOOD, Esq.
Hon. Secretary: WALTER WHITEHEAD, F.R.C.S.E., 202, Oxford-road.

	£	s	d
Allen, Charles R., Esq.	2	2	0
Anningson, J. W., L.R.C.P.	5	5	0
Atkinson, Rev. J. A.	0	10	6
Alston, J. W., Esq.	1	1	0
Appleby, J. T., M.R.C.S.	2	2	0
Ansdell, T. Esq.	3	3	0
Barnes, J. W., L.R.C.P.	2	2	0
Blease, Thos., L.S.A.	1	1	0
Blease, T. T., M.R.C.S.	2	2	0
Botaford, J. W., Esq.	2	2	0
Bott, T., M.D.	0	10	0
Braidwood, P., M.D.	2	2	0
Brooke, H. G., M.R.C.S.	1	1	0
Browne, Henry, M.D.	10	10	0
Browne, Lennox, F.R.C.S.	3	3	0
Buckley, S., F.R.C.S.	3	3	0
Bickham, W., jun., Esq.	1	1	0
Ball, J. A., M.B.	1	1	0
Bradshaw, J. D., M.D.	2	2	0
Bury, J. S., M.B.	1	1	0
Bellhouse, Ernest, Esq.	3	3	0
Bellhouse, Robert, Esq.	3	3	0
Bellhouse, Walter, Esq.	3	3	0
Bellhouse, Charles, Esq.	3	3	0
Brierley, Jas. B., M.D.	1	1	0
Braddon, C. H., M.D.	2	2	0
Cockshott, E., Esq.	3	3	0
Cook, William, Esq.	1	1	0
Cope, Rev. Haden	5	0	0
Cope, Richard, Esq.	10	0	0
Cornish, J. E., Esq.	2	2	0
Crosby, W., M.R.C.S.	5	5	0
Callingworth, C. J., M.R.C.P.	2	2	0
Casson, E., Esq.	1	1	0
Conry, J. P. C., L.K.Q.C.P.	0	10	6
Daly, Shelton, L.K.Q.C.P.	2	2	0
Dancer, James, Esq.	1	1	0
D'Auquier, T. C., Esq.	1	1	0
Davidson, James, Esq.	2	2	0
Davies, Benjamin, Esq.	5	0	0
Dreschfeld, J., M.D.	3	3	0
Dudley, Charles W., Esq.	2	2	0
Day, T. J., Esq.	1	1	0
Daws, W., Esq.	1	1	0
Dickens, Alfred, Esq.	2	2	0
Eckersley, James, Esq.	5	0	0
Edge, A. M., M.D.	5	5	0
Ewart, J. H., M.R.C.S.	2	2	0
Fleming, W. B., Esq.	3	3	0
Fox, Dacre, F.R.C.S.	1	1	0
Fryer, J. H., Esq.	2	2	0
French, F. N., M.R.C.S.	1	1	0
Gale, H. S., M.B.	3	3	0
Gallemore, T., M.R.C.S.	2	2	0
Gibson, Rev. Canon	5	0	0
Glover, Frank, Esq.	3	3	0
Gorton, Richard, Esq.	2	2	0
Goldsmith, P., Esq.	5	5	0
Greenwood, Professor	3	3	0
Graham, W., M.D.	1	1	0
Gumpert, E., M.D.	2	2	0
Hardie, James, M.D.	3	3	0
Hardman, Wm., M.D.	1	1	0
Harrison, R., F.R.C.S.	2	2	0
Harrison, T., Esq. F.C.S.	2	2	0
Heath, F. A., M.R.C.S.	3	3	0
Hecht, Ed., Esq.	1	1	0
Heckscher, M., M.D.	2	2	0
Hetherington, J. M., Esq.	5	5	0
Hetherington, T. R., Esq.	5	5	0
Heywood, John, Esq.	3	3	0
Heywood, G. W., Esq.	5	0	0
Hoare, W. P., F.R.C.S.	5	5	0
Hodgson, Hy., Esq.	2	2	0
Hulton, Campbell, Esq.	5	0	0
Hulton, Campbell, Mrs.	5	0	0
Hunt, T. H., M.R.C.S.	5	0	0
Holliday, Charles, Esq.	3	3	0
Heywood, Abel, sen., Esq.	3	3	0
Holmes, Charles, M.D.	1	1	0
Hall, Wm., M.R.C.S.	1	1	0
Hayle, T., M.D.	1	1	0
Hayle, J. H., M.R.C.S.	0	10	6
Hewitt, J., M.R.C.S.	1	1	0
Johnson, T. M., M.D.	3	3	0
Jones, Thomas, F.R.C.S.	3	3	0
Jones, W. Owen, M.R.C.S.	3	3	0
Jepson, Wm., M.D.	3	3	0
Jordan, F. W., L.R.C.P.	1	1	0
Kendal, J. Herbert, Esq.	5	0	0
Kendal, Thomas, Esq.	5	0	0
Kessler, William, Esq.	5	0	0
Knoop, H. L., Esq.	1	1	0
Knowles, James, Esq.	3	3	0
Leech, Daniel J., M.D.	3	3	0
Lee, Edmund, M.R.C.S.	1	1	0
Leigh, John, Esq.	3	3	0
Little, David, M.D.	3	3	0
Lund, Edward, F.R.C.S.	3	3	0
Lund, Mrs.	2	2	0
Lees, Miss	10	0	0
Langworthy, Mrs.	10	0	0
Lomax, James, Esq.	5	5	0
Leeds, Thos., M.R.C.S.	3	3	0
Lofthouse, John, L.R.C.P.	1	1	0
Lewis, J. R., Esq.	1	1	0
MacLaren, James, Esq.	2	2	0
Mackenzie, J. O., Esq.	5	5	0
Makin, T. W., Esq.	1	1	0
M'Keand, Charles, Esq.	2	2	0
Meacham, Ed., M.R.C.S.	0	10	6
Mehl, F., Esq.	1	1	0
Midwood, A. H., Esq.	5	5	0
Midwood, G. H., Esq.	5	5	0
Moritz, S., M.D.	1	1	0
Mosley, Joseph, Esq.	2	2	0
Moult, James H., Esq.	3	3	0
Midwood, G. Norris, Esq.	2	2	0
Madeley, G. S., M.R.C.S.	1	1	0
Mason, Henry, Esq.	3	3	0
Morris, Cameron, M.B.	1	1	0
Massiah, B. J., M.D.	0	10	6
Mark, John, Esq.	5	5	0
Morgan, E., M.D.	5	0	0
Matthews, W. C., M.R.C.S.	1	1	0
Nestfield, S., M.D.	1	1	0
Norris, W. C., M.R.C.S.	1	1	0
O'Grady, W. F., L.R.C.P.	1	1	0
Pearson, J. C., M.D.	3	3	0
Patrick, Robert, L.R.C.P.	2	2	0
Platt, Thos., M.R.C.S.	1	1	0
Page	1	1	0
Pooley, R.C.M., L.K.Q.C.P.	1	1	0
Radcliffe, Samuel, Esq.	3	3	0
Renshaw, Chas. J., M.D.	2	0	0
Renshaw, H. S., M.D.	1	1	0
Reston, Hy., L.R.C.P.	2	2	0
Roberts, John, M.D.	1	1	0
Roberts, John, Esq.	3	3	0
Roberts, Lloyd, M.D.	2	2	0
Roberts, Thomas, Esq.	5	0	0
Roberts, W., M.D., F.R.S.	10	10	0
Robinson, J., Esq.	1	1	0
Roe, Edwin, M.R.C.S.	1	1	0
Roe, Leyland, L.R.C.P.	1	1	0
Rose, Thomas, Esq.	3	3	0
Ross, Donald, M.D.	2	2	0
Ross, James, M.D.	3	3	0
Rothwell, Chas., Esq.	2	2	0
Royds, Clement, Esq.	5	5	0
Ransome, A., M.D.	2	2	0
Samelson, A., M.D.	2	2	0
Saunder, W. L., Esq.	1	1	0
Schofield, C. J., Esq.	5	5	0
Schorlemmer, C., Esq., F.R.S.	3	3	0
Schuster, Charles, Esq.	5	5	0
Schuster, Fred. Leo. Esq.	3	3	0
Schwabe, Leopold, Esq.	2	2	0
Scott, Walter, Esq.	1	1	0
Scowcroft, J. E., F.R.C.S.	2	2	0
Sharp, Wm. P., Esq.	3	3	0
Shaw, J., Esq.	1	1	0
Shearman, W. M., L.R.C.P.	5	5	0
Simpson, Henry, M.D.	2	2	0
Smart, R. B., M.R.C.S.	1	1	0
Smith, G. W., F.R.C.S.	5	5	0
Southam, F. A., F.R.C.S.	2	2	0
Steell, Grahame, M.D.	1	1	0
Sutcliffe, A. E., M.R.C.S.	3	3	0
Smith, C. E., L.R.C.P.	1	1	0
Standring, Thos., Esq.	3	3	0
Stone, Joseph, M.D.	2	2	0
Smith, T. Starkie, M.B.	3	3	0
Scowcroft, W., M.R.C.S.	1	1	0
Symonds, Arthur G., Esq.	1	1	0
Slagg, J., Esq., M.P.	1	1	0
Sullivan, James, Esq.	1	1	0
Tarbottoon, G. S., Esq.	2	2	0
Tatham, Garnett G., M.D.	1	1	0
Thomson, William, Esq.	3	3	0
Thorburn, John, M.D.	3	3	0
Tomkins, H., M.D.	1	1	0
Warden, Henry, Esq.	1	1	0
Wartenberg, Victor A., M.R.C.S.	1	1	0
Whitehead, Henry, Esq.	3	3	0
Whitehead, James, M.D.	5	5	0
Whitehead, W., F.R.C.S.	3	3	0
Wilkinson, J. S., Esq.	4	4	0
Woodcock, J. R., F.R.C.S.	3	3	0
Woodcock, Sam., M.D.	2	2	0
Wright, G. A., F.R.C.S.	1	1	0
Williamson, H. M., M.R.C.S.	2	2	0
Wimpenny, A. B., Esq.	1	1	0
Wood, F. M., Esq.	2	2	0
Watson, John, M.D.	1	1	0
Walmsley, F. H., M.R.C.S.	5	0	0
Watson, W., Capt.	1	1	0
	£535	4	6

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, November 25th, 1880.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia tn Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Nov. 19	29·29	N.	38	37	..	44	31	0·42	Overcast
,, 20	30·15	N N E	35	33	..	41	31	..	Bright
,, 21	30·46	N.	34	34	..	38	32	..	Foggy
,, 22	29·91	W.	32	..	..	37	25	..	Foggy
,, 23	29·62	W.	36	33	..	50	30	..	Overcast
,, 24	29·62	S.W.	50	48	..	52	23	..	Cloudy
,, 25	29·62	W.	45	53	..	57	47	0·03	Fine

Notes, Short Comments, and Answers to Correspondents.

PROLONGED ENFORCED FASTING.

IN the *Canada Lancet* for November, Mr. H. K. Kerr, of the Trinity Medical School, Toronto, narrates a case of œsophageal stricture, which seems to afford a striking example of the length of time life may be prolonged without food. The stricture was induced by the patient swallowing, by mistake, a mouthful of weak lye. In the course of a fortnight symptoms of dysphagia began to appear, and, in spite o treatment, deglutition became more and more difficult until milk was the only nourishment that could reach the stomach. The patient became greatly emaciated, presenting the usual symptoms of starvation. In ten months his weight decreased from 120 lb. to 60 lb. During the remaining seven months previous to death he frequently attempted to partake of food, both solid and liquid, but could swallow no appreciable quantity of either, the only nourishment supplied to the system during this time being by means of enemata of milk-and-egg administered twice daily. The intellectual faculties and special senses seemed unimpaired. The power of locomotion was retained up to three days previous to his death, at which time his weight was not above 40 lb. Prostration set in, followed by dyspnœa, syncope, and death.

Dr. George Budd.—The paper will be inserted in an early number.

"A NOTE ON INTENTION IN THE DETERMINATION OF SEX AND OF THE MENTAL AND PHYSICAL INHERITANCE OF CHILDREN."

To the Editor of THE LANCET.

SIR,—Kindly permit me to convey my thanks to Dr. Granville for his courteous reply to my query, which, however, he has left unanswered.

At different times I have made experiments with birds and animals with the view of determining this very question, and the result has been adverse to the opinion expressed by the Doctor, which was also at one time my own. I have been, on the contrary, compelled to admit that if there be a governing principle in the matter, it yet remains to be discovered.

With regard to a unity of placenta in the case of twins of different sex, I have met with four cases in my practice where such a phenomenon existed. On this latter point I would refer Dr. Granville to a discussion at a meeting of the Obstetrical Society, recorded in vol. xix. of their Transactions, p. 276.

I am, Sir, yours truly,

Nov. 1880. A. G. P.

M.D., M.R.C.P.E.—We recommend our correspondent to call on Mayer and Meltzer, Great Portland-street, who would demonstrate the use of the instrument to him in five minutes. He may also look into Cyon's little work, entitled "Electro-therapie," and Niaudet's "Traité Elémentaire de la Pile Electrique," 1878.

Mr. P. K. Cree, (Tahiti.) Thanks. The matter is scarcely worth notice.

PROPER COVERING FOR THE FEET.

AT the Aberdeen Philosophical Society a few days ago Professor Struthers introduced a subject upon which, it would seem, the public, and especially the female part of it, require more than ever to be informed. The title of the paper read by the professor was "The Proper Form of Shoe considered in relation to the Anatomy of the Foot." After a short notice of the bones of the human foot and the characteristics adapting it to the erect position, and of the muscles by which the various movements of the toes are produced, Dr. Struthers said it was evident that the toes were meant to have freedom for individual action. The whole of the muscles of the great toe are separate from those of the other toes, except the slip from its long flexor muscle, which goes to the next two toes, and moves them at the same time, and the slip it receives from the short extensor of the toes; but the great toe has powerful separate muscles for moving up and down and sideways. The foot is capable of being trained to perform many actions usually performed by the hand. But irrespective of this capability, the toes are evidently naturally adapted for a freedom of motion which is denied them by the form of shoe usually worn. The distortion produced by the fashionable pointed shoes is the dislocation of the great toe, by which it is slanted towards the middle toe, the whole of the toes being pressed together to a point. This is apt to produce bunion over the inner prominence of the toe, and ingrowing toe nail, both very troublesome conditions. The inner edge of the shoe ought to be straight along nearly the front half of the foot. This implies what seems a very curved-in shoe, but it is the only form in which the great toe can be naturally lodged.

Dr. Cummings Air.—The paper is marked for insertion.

FISH-EATING AND LEPROSY.

To the Editor of THE LANCET.

SIR,—Mr. Hutchinson, in his letter on the above subject in your issue of the 6th instant, remarks "that he has not seen a single instance of leprosy in which the fish hypothesis was imposs ble; nor does he know of a single district where the facts, when sifted, are strongly opposed to it." The hypothesis will, I take it, be possible until it can be shown either that a leper has never eaten fish once in his lifetime, nor that any of his ancestors have done so, or that some other cause of leprosy has been definitely established as the true one. Neither of these conditions has as yet been fulfilled, and I, for one, cannot consider the fish theory impossible.

My object in addressing you is, however, to cite an instance (and I presume it would not be difficult to refer to others) of a district in which the facts are strongly opposed to the fish theory.

My friend, Dr. Arthur Reid, who is at present in this country, has brought with him copious notes of cases of leprosy observed at a native hospital at Hankow, China, over a period of fifteen years, special attention having been directed by him in his inquiries to the collection of evidence bearing on the etiology of the disease. Dr. Reid informs me "that the leper cases came from country districts within a radius of 100 miles from Hankow, being generally residents in hamlets composed of from five to twenty families. The leper applicant was often the solitary example of the disease in his family and township. The diet of these poor country people consisted of rice, millet, bean-curd, and a little oil, with pork two or three times a month, and fish at longer intervals. Many of the lepers stated that, owing to the extreme poverty of their families, they had only been able to procure pork once in two or three months, and fish only at the new year. In the large centres of Hankow and Wuchang, where river and lake fish can be purchased throughout the year, leprosy combined with a town ancestry of two generations is rare. I never met with a town case where either the patient or one of his parents had not migrated from a country leper district. Fish-eating is essentially in Central China the privilege of the well-to-do, while leprosy is usually found among the poor vegetable-feeders."

The observations of Hansen (Virchow's Archiv, vol. lxxix., 1880) on the *Bacillus lepræ* cannot fail to direct inquirers into a new field of study in reference to this disease. Through the kindness of Mr. Watson Cheyne I have had an opportunity of examining sections through lepra-nodules sent him by Dr. Koch. The presence in large numbers of the minute organisms described by Hansen, distinct when observed under favourable circumstances, but not so easy of observation as many of the forms of bacteria, whatever their precise relation to the primary cause of the disease may be, can hardly fail to have an important influence on its development.

I am, Sir, yours &c.,

Queen Anne-street, W., Nov. 8th, 1880. G. THIN, M.D.

To the Editor of THE LANCET.

SIR,—As one who has studied attentively the etiology of leprosy, I beg to be allowed to give Mr. Hutchinson some references such as he asks for. The main argument, in short, for the causation of leprosy by a fish diet lies in the marked concurrence of the disease with the distribution of water on the earth's surface, and the use of putrid fish as an article of diet in islands, on sea-boards, and to a less extent inland. Virchow, indeed, looking to the illustration afforded by Norway, the shores of the Mediterranean, and many islands, thought leprosy "was limited to the borders of seas and large rivers." Hansen (as quoted by Carter), from a more extended survey, which has not led him to adopt the fish theory, has expressed himself thus: "So far as I know, the sole condition which can with any tolerable certainty be regarded as universally prevalent in all these several localities (both at home and abroad)—i.e., where leprosy is known to prevail—is the vicinity of water, either salt or fresh." In the light of still more recent observations, which are well summarised by Dr. Munro (Leprosy, 1879), we must considerably modify even this statement; for leprosy is found in many inland and elevated districts and mountainous regions and far from rivers.

The College of Physicians' Report, p. 189, after stating that no castes are exempt, adds that the Brahmins and some of the higher castes of Hindoos in Mysore eat no kind of flesh, and though the lower castes do when they can get it, fish, fresh or salt, is very rare in Mysore (see also p. 195, Nagpore). At page 181 it states that "the majority of the people being Hindoos, they are strict vegetarians"; and again it repeats that leprosy is largely present amongst the vegetable-eating Hindoos, and (p. 194) it records that the inhabitants of the notorious leprous district of Beerbhoum are exclusively vegetable-eaters (see also Macnamara on Leprosy, 1866, and Espinet's Reports from Trinidad, 1873-4). Vandyke Carter, in his Reports of Leprosy, 1876, speaking of Western India, says that "many lepers have never tasted animal food," and, as regards the Cruzerathi population, "by a majority of the people it may be said that animal food is scrupulously avoided." Again, in his Modern Indian Leprosy, 1876, Carter says of the diet in the Bhamagar district of Kattiawar "animal food is very rarely used, only Mussulmans, a few Rajputs, and Kolis of lower grade will touch either flesh or fish." The same great authority on leprosy writes (Report on the Prevalence and Characters of Leprosy in the Bombay Presidency, 1872), at p. 14, that "there is no clear evidence that any special article of diet either excites or predisposes to leprosy," and "a very large proportion of the population of Western India are either solely vegetarians or partake only occasionally of animal food"; and again, at p. 37, "true leprosy has absolutely no apparent connexion with such diet"—i.e., fish; "and in Western India all castes, except most Brahmins, the Tains, and Lingaets, may partake of fish" (see also the interesting information collected in the list of castes). Turning to China, I would refer Mr. Hutchinson to the several articles in the Chinese *Customs Gazette* by Drs. Reid and Wong in support of the latter's statement that "it does not appear that fish-eating plays any part in the causation of the disease."

I am, Sir, yours faithfully,

Harley-street, Nov. 15th, 1880. T. COLCOTT FOX.

"DENTAL-SURGEONS," "SURGEON-DENTISTS."

To the Editor of THE LANCET.

SIR,—Mr. Carpenter, in to-day's LANCET, calls upon me to give the details of the case alluded to in my last letter. It is the well-known case of Ladd *v.* Gould, with the particulars of which Mr. Carpenter is well acquainted. My statement of the issue raised in this case, and of its treatment by the Judge, is, I believe, substantially accurate.

Mr. Carpenter says: "The assertion that unqualified persons should have a 'right,' for the purpose of gain, to commit a fraud upon the public, by representing themselves to be qualified persons, is revolting nonsense to the common sense of the profession." With this I cordially agree; but I have never made such an assertion, and I deny that Mr. Carpenter's remarks fairly apply to the circumstances under discussion. Prior to the institution of a Dental diploma in 1858, there were a considerable number of well-instructed and accomplished dentists who possessed no diploma. They had received their professional education by pupilage with dentists, and had not obtained a surgical qualification such as at that time was held by some very few dentists. Most of these practitioners took the diploma in Dental Surgery shortly after it was instituted; but not being under compulsion, and not having the inclination, some did not present themselves for examination. There are still some totally "unqualified" dentists of this class, who are known both to the profession and the public as highly educated and skilful practitioners. At the time when these gentlemen received their professional education, and for generations before, it had been usual for such practitioners to style themselves surgeon-dentists, and they had established their right to do so by custom. Had the Legislature in framing the law, or the Judges in administering it, deprived all unqualified dentists whatever of the right to style themselves surgeon-dentist, an injury would have been inflicted upon a number of innocent individuals. No doubt somewhat on this account the penal clauses of the Medical Act of 1858 were interpreted as not interfering with unqualified practitioners acting *bond fide* as surgeon-dentists, and not fraudulently acting as medical practitioners, and hence the judgment in the case of Ladd *v.* Gould. A like judgment in a somewhat parallel, well-known case of an unqualified "surgeon"-chiropodist may be cited as illustrating further the spirit influencing the Courts. It is somewhat astonishing to learn from Mr. Carpenter that "the Statute of Fraud" has any bearing upon these cases.

Your obedient servant,

Wimpole-street, Nov. 20th, 1880. HENRY SEWILL.

Sanitarian.—"Portugious" is a word suggested by Dr. Gibbs, Medical Inspector of the United States Navy, to express the infection-bearing quality of the "germs" of certain diseases.

Argus.—We do not gather from our correspondent's note that any steps have been taken to abate the *nuisance* from the works under section 114 of the Public Health Act, 1875.

Mr. T. H. A. Bosbruges.—We are glad to know the profession share our view of the Guy's Crisis.

NURSES FOR THE SICK POOR.

THE Northern Home, in Holloway-road, is an institution founded for the purpose of providing trained nurses for the sick poor. We have reason to know that much good work has been done by this institution, and that our brethren in the north of London have often realised the advantages of the home in affording a ready means of supply of attendants on the sick at once careful and skilled. A meeting was held this week to avert a threatened curtailment of the usefulness of the institution owing to the falling off in subscriptions. It would be matter of regret if a movement inaugurated to meet a recognised and urgent want should be allowed to collapse for lack of funds.

W. T. R.—Under the circumstances we cannot think there is any claim. The terms of the call seem to have been conditional.

Enquirens.—The case is evidently one of severe gastralgia, and we should recommend the use of sedatives.

"INFECTED MILK: DIPHTHERIA."

To the Editor of THE LANCET.

SIR,—I hope you will excuse my offering a few remarks on your article—"Infected Milk: Diphtheria"—which appeared in THE LANCET of the 20th inst., page 827.

Every precaution was taken to isolate the patient, and prevent contamination of the milk. Not only was I not informed of the regulations made for the government of the dairies, but one of the largest dairymen in this district was also ignorant of them until this case was brought forward. Surely all medical men and dairymen should be officially informed of any rules that may be instituted with which they are bound to comply!

Holding a public office should be no excuse for a medical man intruding upon the patients of another. Such visits can seldom do otherwise than alarm, and may be very injurious. The dairyman's niece was in her fourteenth year, a delicate and very nervous, sensitive girl; and I was astonished to learn in court that the two doctors had "found her dying from malignant diphtheria." I have no hesitation in contradicting this; but the mother informed me that her daughter was greatly alarmed at the unexpected visit of the doctors and at their remarks, and no doubt she consequently presented a scared appearance. I had ordered her to be kept very quiet, which order was completely upset by this proceeding. The morning after the doctors' visit the diphtheritic membrane had completely cleared away, and it was not till the day subsequent that the girl died from suppression of urine.

I should be glad to know whether sanitary officers are justified in intruding upon the private patients of other practitioners and catechising them, as has been the practice at Surbiton, much to the annoyance of ladies and gentlemen. Also whether, in reporting to the sanitary authorities, with a view of publicity in the local papers, particulars of cases in which other medical men are concerned, they should not first satisfy themselves as to the correctness of such particulars from the medical men in attendance, and also from the other parties affected by their reports?

I am, Sir, your obedient servant,

Surbiton, S.W., Nov. 22rd, 1880. R. COLLUM, M.D.

To the Editor of THE LANCET.

SIR,—I am the inspector and prosecutor in this case, and am solely responsible for the summary inspection as well as the cross-examination which you consider require explanation, Dr. Coleman being a witness only to testify that he had not received notice of the illness. Had the proceedings been more fully reported the explanation which I am now happy to give would not have been necessary.

On Monday, Nov. 1st, I received information from three sources of several cases of diphtheria arising presumably from one dairy, and I at once made an inspection in accordance with Section 50 of the Act.

On inquiry I was informed by the dairyman that a few weeks ago there had been illness in his house, and that there was a child ill at the time of my visit; that the former case was alleged by the medical attendant to have been croup, while the latter was stated to be an obstruction of the bowels. But having reasons for believing that there was infectious disease in the house, and seeing that the afternoon milk was about to be sent out, I considered that I could not delay my inspection without neglecting my duty and endangering the public safety.

Accordingly I requested Dr. Coleman to accompany me into the sick chamber. We found the child pulseless at the wrist, the lymphatic glands of the neck enormously enlarged, and the palate and fauces diphtheritic. Apart, however, from the urgency of the circumstances, I declined to meet the medical attendant.

I am, Sir, yours obediently,

Surbiton, Nov. 22nd, 1880. WM. PRICE JONES.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Nov. 20th, in your notice of a case that was heard at the Kingston County Board of Magistrates, under the Dairies and Cowshed Order, I am held up as having largely offended against the unwritten law of professional etiquette in my conduct in the above case as medical officer of health for the district. My only object in writing is to deny these charges brought against me, and to say that I regret they should have been made, for I am certain, Sir, that were you in full possession of the true facts of this, in many ways, painful case, you would not have allowed these statements to have appeared to the prejudice of Dr. Jones and myself.

I saw the child without previously communicating with Dr. Collum because I noticed preparations for sending out that afternoon's supply of milk, which it was my duty to stop if the case were one of diphtheria, as I had every reason to suspect, and as it proved to be. As health officer, I had a duty to perform, and urgency was my reason for acting as I did; but I afterwards went direct to Dr. Collum's house to give an explanation, but finding him not at home, left my card, and wrote that same evening to him what I had done. I had nothing to do with "rigorously cross-examining" Dr. Collum, but, with the full permission of the Bench, asked him a couple of questions relative to a personal matter, which I need not here enter into.

I am, Sir, yours faithfully,

OWEN COLEMAN, M.D.,

Surbiton, Nov. 23rd, 1880.] Medical Officer of Health.

Mr. H. Nuttall.—We do not see that there would be any great harm in a number of medical men agreeing to have their dispensing done at one place by a registered chemist; but we think differently of the proposal for them to form a Joint Stock Company for the sale of drugs and compounding the prescriptions of other medical men. This is to erect another, if a small, Apothecaries' Company, and to bring medical men into trade relations with drugs, which is exceedingly undesirable.

Mr. George Holt.—The subject is a large one. Our correspondent should study "Morbid Craving for Morphia," by Edward Levinstein, M.D., published by Smith, Elder, and Co.

"THE CHLOROFORM DEATH-BILL FOR TWELVE MONTHS."

To the Editor of THE LANCET.

SIR,—In my paper on this subject in your issue of Nov. 6th I distinctly guarded myself against making any charge on users of chloroform. No blame has ever been attached to a medical man by a coroner for using this substance, and there is no danger and need be no hesitation in publishing the case. But the difference between the accounts of the past ten years and those of a previous decade, shows how many cases may escape notice. My object in writing was to urge that there now exists an opportunity of forming a better opinion on the comparative merits of the two anæsthetics than ever was the case before, ether having been in extensive use for the past five years. It is quite possible that all the deaths from ether have not been published. A few days ago a friend told me he believed he had lost a case from bronchitis after its use. With his permission I hope to publish the case in a forthcoming list of deaths from anæsthetics, but I have yet to learn that the "ether frenzy" has been followed by a "chloroform reaction." Ether remains the favourite anæsthetic at most of our large English surgical centres, both in London and in the provinces, its use is extending in private practice, is the most generally used agent with our professional anæsthetists, and the rising generation of medical men are being trained to give ether rather than chloroform. I repeat that the argument "I never saw a death from chloroform" is only worth anything if the experience has been exceptionally large, say of 5000 or 6000 cases. At the most, chloroform is fatal only once in 3000 cases. Still even this mortality is serious if by any means it can be reduced.

I am glad to hear ether is used in the Edinburgh Infirmary; but with regard to a mixture with chloroform, I may remind your readers that if the death which occurred in the ophthalmic practice at the Edinburgh Infirmary at the close of last year is to be ascribed to this, it makes the fourth death in the past four years from the mixed anæsthetics.

Lastly, may I say a word against the practice of giving ether from a sponge or towel. I cannot but think that, from the patient's point of view, this must be most unpleasant. Dr. Saundby recommends that the inhaler should be held down tight in case of struggling. With Clover's inhaler struggling hardly ever occurs.

I remain, Sir, yours &c.,

Leeds, Nov. 1880. ERNEST H. JACOB, M.D.

Indicus.—Hart's Army List is in no respect an official publication, and may be fairly conducted in the way that seems best to the editor; but we feel sure that if our correspondent called the editor's attention to the omission, the information would immediately be supplied.

Dr. A. M. Anderson, (Dundee.)—Thanks.

THE BRITISH MEDICAL TEMPERANCE ASSOCIATION AT BRISTOL.

To the Editor of THE LANCET.

SIR,—In reply to the letter of Dr. Ridge contained in your impression of Nov. 13th, I will, with your permission, say that I cannot see any connexion between drunken soldiers in the Madras army in 1847, and the sons of temperance in England in the present day. At the same time I must admit that my "imperfect knowledge" will not allow me to take in the statement that a total abstainer or any other man can live for a hundred and sixty years, more or less, without at least a lengthened explanation of the circumstances; and, in conclusion, I would assure Dr. Ridge that my sympathy goes with him heartily in the cause he has taken up, if he will only leave off statistics, and confine himself to the advocacy of temperance purely on scientific and moral grounds.

I am, Sir, yours &c.,

Bristol, Nov. 13th, 1880. TEMPERANCE.

*** This discussion must now close.—ED. L.

HYPODERMIC INJECTION OF MORPHIA IN CHOLERA.

Mr. Chas. MacDoicall wishes to correct an error in his letter published in our columns on the 16th ult. The word "cases" should, he says, have been put in the singular number.

Mr. D. A. Gresswell.—Our correspondent, by referring to THE LANCET of NOV. 13th, page 795, will find that his request has been already complied with.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Bristowe, London; Mr. Brodhurst, London; Dr. Godson, London; Dr. Coleman, London; Dr. Barton, Fulbeck; Dr. Burton, Liverpool; Mr. E. May, London; Messrs. H. S. King and Co., London; Mr. Turnbull, Dunbar; Mr. J. H. Craigie, London; Mr. S. Osborn; Dr. Collum, Surbiton; Dr. Steventon, Sheldon; Mr. M'Gill, Leeds; Dr. R. Lawson, Edinburgh; Mr. Peter White, Shetland; Mr. J. Beal, London; Dr. Battye, London; Mr. A. W. M. Robson; Messrs. Evans and Co.; Mr. Fowkes, London; Dr. Gramshaw; Major Minto, London; Dr. G. Budd, jun., Clifton; Mr. A. E. Barker, London; Mr. Cree, Tahiti; Mr. Rawson, Taranaki; Dr. Eddowes, Loughborough; Captain Hobson, London; Dr. Forchammer, Davos; Mr. Kesteven, London; Mr. W. Whitehead, Manchester; Mr. C. MacDowall; Dr. C. Hood, London; Mr. Nuttall, Leicester; Mr. H. Sewill, London; Dr. Gordon, Portland, U.S.A.; Mr. Morris, London; Dr. Dudfield, London; Dr. Temple, Newcross; Mr. G. Barnard; Dr. Murray, Putney; Dr. T. S. Roskruge, Brighton; Mr. Melladen; Mr. S. Murphy, London; Dr. Tatham, Salford; Mr. J. E. Jones, Abersoch; Dr. J. H. Clarke, London; Dr. T. Gurney, London; Mr. Reckitt, Newark; Mr. R. C. Lucas, London; Mr. Gyles, Dublin; Mr. Tuxford; Dr. M'Kelvie, Cromer; Mr. Fieldson, Norwich; Mr. C. Roberts, London; Dr. Hollis, Ipswich; Mr. Walker, Middlesborough; Mr. Hanbury, Orchardside; Dr. Archer Farr, London; Dr. Philipson, Newcastle-on-Tyne; Miss Haslam; Dr. Eustace Smith, London; Mr. De la Motte, Staines; Dr. Emrys-Jones; Dr. Strahan; Mr. Story, Linslade; Mr. W. Bund; Dr. Newth, Hayward's Heath; Mr. Flynn, Lichfield; Mr. Denham, Southsea; Mr. Phillips, Leeds; Mr. Birkett, Weston-super-Mare; Mr. Grenfield, Chipping Sodbury; Mr. Brown, Dorchester; Mr. Bridgeman, Barnstaple; Mrs. Rumball, Harpenden; Dr. Ruck, Ohio, U.S.A.; Messrs. Keith and Co., Edinburgh; Dr. Wilkinson; Mr. Custance, London; Fairplay; T.; M.D.; Lexus; M.; Justitia; The Registrar-General of Scotland; A. G. P.; H. B. F.; H. C. A.; G.; Two Students; Medicus; Doctor, Sheffield; G. P., York; Scrutator; A. B., Peterborough; Moderation; W. T. R.; J. D.; Enquirens; An Englishman; Ne Sutor ultra Crepidam; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Thomas, Egerton, Victoria; Mr. Campbell, Islay; Mrs. Jolliffe, Pembroke; Mrs. M. Brown, London; Mr. Maycock, Leamington; Mr. Westley, Stoneham; Mr. Elliott, Manchester; Mr. Emmett, Nottingham; Mr. White, Delting; Mr. Eberle, Easingwold; Messrs. Cuff Brothers, Dover; Mr. Leaver, Stratford-on-Avon; Dr. Kendall; Dr. Ward, Oxford; Mr. Rowe, Stratton; Messrs. Harvey and Reynolds, Leeds; Mr. Newton, Mudge, S. Wales; Mr. Field, London; Mr. Eccles, Newcastle; Mr. Warman, Ramsgate; Medicus, Swindon; Z., Bath; Spes, Dawley; X. Y. Z., Brighton; M.D., Fairley; Negotium; Endymion; F.R.C.S., Barnsley; Physician; X.; P. R. S.; M. A. R.; S. E. R.; M. S., Carnarvon; J. G. C.; Omega, Manchester; Assistant, Sheffield; B. D. F.; Permanens; Medicus, Sheffield; Undergraduate; Surgeon, Measham; Medicus, Liverpool; A. E. D.; Ilion; M.D.; &c.

Norwich Argus, Chard and Ilminster News, Gravesend Argus, Chemists' Journal, Il Morgagni Giornale, Anglo-American, Public Opinion, Rangitikei Advocate, Bradford Daily Telegraph, Colonies and India, Daily Picayune, Irish Times, Lincolnshire Chronicle, Our Boys' Paper, Bradford Observer, Voice, Hampshire Telegraph, Daily Bristol Times, Bridlington Free Press, Sunderland Daily Echo, Colchester Gazette, La Independencia Médica, &c., have been received.

Medical Diary for the ensuing Week.

Monday, Nov. 29.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; on Tuesday, 9 A.M.

MEDICAL SOCIETY OF LONDON.—8½ P.M. Dr. T. Gilbart Smith, "On a Case of Perforation of the Stomach due to Hydrochloric-acid Poisoning."—Mr. Richard Davy, "On the Advantages of Ogston's Operation in the Treatment of Genu Valgum."—Mr. Samuel Benton will show a Case of Recovery from severe Knock-knee, treated by Tenotomy and Instrumental means.

Tuesday, Nov. 30.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, Dec. 1.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.

ST. MARY'S HOSPITAL.—Operations, 1½ P.M.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.

LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.

GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

SOCIETY FOR THE ENCOURAGEMENT OF ARTS, MANUFACTURES, AND COMMERCE.—8 P.M. Mr. W. H. Preece: "The Photophone."

EPIDEMIOLOGICAL SOCIETY.—8 P.M. Dr. E. Dickson, British Delegate to the Ottoman General Board of Health, "On the Outbreak of Plague in the Province of Astrakhan, 1878-79."

OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimen: The Pygopagi Twins will be shown by the President.—Paper: Dr. Priestley, "On the Induction of Abortion as a Therapeutic means."—And other communications.

Thursday, Dec. 2.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.

HARVEIAN SOCIETY.—8½ P.M. First Harveian Lecture, by Dr. James E. Pollock, "On the Prognosis and Treatment of Chronic Diseases of the Chest in relation to Modern Pathology."

Friday, Dec. 3.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, Dec. 4.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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The postal arrangements relating to the distribution of THE LANCET will be considered from time to time in the interests of subscribers.

Tables of Contents, with the Index of Advertisements, for each Number can be had on application to the Publisher.

Agent for the Advertising Department in France—J. ASTIER, 66, Rue Caumartin, Paris.